

Environmental Assessment: Construct Airfield Lighting Vault and Demolish Building 531 at Grand Forks Air Force Base

**Prepared by
Grand Forks Air Force Base, North Dakota
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**Finding Of No Significant Impact
For
Construction of Airfield Lighting Vault
And Demolition of Building 531**

AGENCY: Department of the Air Force

PROPOSED ACTION: The purpose of the proposed action is to construct an airfield lighting vault facility. The existing airfield lighting vault was constructed in 1957 and cannot feasibly be repaired or altered to meet current UFC and safety criteria. Current circuitry in the vault carries 4160 volt primary power to all regulators. The configuration and space in the existing building does not provide adequate storage for spare parts and equipment or expandability for new circuits and associated equipment. The basement has severe moisture and drainage problems that persist in spite of previous attempts to solve them. Approach lights are not switchable to a Simplified Approach Lighting System with Runway Alignment Indicator Lights (SSALR). Above ground electrical junction boxes are within area of frangibility (within 250 ft of runway centerline).

GFAFB proposes to repair the airfield lighting system by replacing the existing airfield lighting vault with a new vault in an adjacent location. The new vault must meet criteria in Unified Facilities Criteria (UFC) 3-535-01, paragraph 12.1.8 and 12.1.8.1. In order to meet AMC standard, lighting regulators must be powered by 480 volts, instead of the present 4160 volt power. Adequate space must be provided for repair and work bench areas and storage of an adequate supply of airfield lighting replacement parts to ensure safe continuous airfield operations in all seasonal weather conditions, including tornadoes. Total facility size should be approximately equal to or less than the total square footage of the existing facility (3,250 SF), while providing adequate space for all electrical components, circuitry, and safety clearances. The existing vault must remain in operation during the entire construction period of the new vault.

There is a need to eliminate building 531 once the new facility is operational. Demolition of the old facility will be performed. Mission requirements, operational considerations, and location are incompatible with use by other components on base.

Grand Forks Air Force Base proposes that the best action is to construct an airfield lighting vault facility on Grand Forks AFB and demolish building 531.

No Action Alternative 1: The no action alternative would be to leave the facility as is. Building 531 would continue to be an inadequate facility requiring maintenance and repair. If the project is not funded, future airfield operations at Grand Forks AFB will be jeopardized by unreliable airfield lighting circuits as the obsolete vault facility and equipment continue to deteriorate, become increasingly difficult to maintain and obtain replacement parts, and safety issues with the high voltage primary power in the facility continue to present life safety hazards to Air Force electricians.

Proposed Action 2: Grand Forks AFB proposes to repair the existing airfield lighting system by replacing the existing airfield lighting vault with a new airfield lighting vault facility in an adjacent location using a north-south alignment. The new vault must meet criteria in Unified Facilities Criteria (UFC) 3-535-01, paragraph 12.1.8 and 12.1.8.1. In order to meet AMC standard, lighting regulators must be powered by 480 volts, instead of the present 4160 volt power. Adequate space must be provided for repair and work bench areas and storage of an adequate supply of airfield lighting replacement parts to ensure safe continuous airfield operations in all seasonal weather conditions, including tornadoes. Total facility size should be approximately equal to or less than the total square footage of the existing facility (3,250 SF), while providing adequate space for all electrical components, circuitry, and safety clearances. The existing vault must remain in operation during the entire construction period of the new vault. Grand Forks AFB proposes to repair the airfield lighting system by replacing the airfield lighting vault with a new vault in an adjacent location using a north-south alignment. Approach lights and circuits must meet UFC 3-535-01 and UFC 3-535-01-02. Remove or relocate junction boxes in the area of fragility. Proposed work includes masonry construction, concrete floor slab on grade with footings, standing seam metal roof, overhead door, underground electrical service, access road, parking area, appropriate HVAC with positive air pressure, fire alarm, detection, and suppression system, and all required site improvements. Provide high speed internet connection (LAN line), parts storage, restroom, and workbench area. Include force protection, site improvements, and demolition of existing facility 531 with equipment disposal.

Demolish Building 531. Excavate, remove and dispose of all associated structures, piping, electronics, communications, lighting, utilities and debris. Backfill and compact the site excavation area. Remove all utilities to the junction point nearest the building. Cap utilities as needed. Deliver the transformers to the base electric shop once power is terminated. Recycle the electronics and metals. Remove all hazardous materials, such as lead, lead-base paint, mercury, asbestos, etc., according to the latest federal, state or local codes. All hazardous material abatement, such as PCB ballast or mercury switch removal, shall be complete before the building demolition commences. The building foundation and footings shall be entirely removed to ten feet below the existing surface. Off-site clean fill shall be used to backfill. Concrete may not be used as site fill. The backfill material shall be free of bentonite, trash, frozen or organic material including lignites, humus, sod, grass, roots or other vegetation. The backfill material shall not be of a size greater than 3 inches, may not contain more than 12 percent shale, and not may contain greater than 20% sand. A minimum of six inches of topsoil shall be placed over the site and graded to match surrounding contours and be sodded. The concrete from the foundations may be salvaged by the contractor or hauled to a licensed landfill.

Alternative Action 3: Construct a new vault in an east-west alignment. Reutilize or renovate facility 531 for another mission.

Impacts by Resource Area

Air Quality - Air Quality is considered good and the area is in attainment for all criteria pollutants. No significant impacts to air quality would result because of construction and demolition activities.

Noise - The construction of a new facility and the demolition of building 531 would create additional noise. The increase in noise would be negligible and only occur during construction and demolition.

Wastes, Hazardous Materials, and Stored Fuels - The increase in hazardous and solid wastes from construction of a new facility and demolition of building 531 would be temporary. Solid waste debris would be disposed of in an approved location, such as the Grand Forks Municipal Landfill. Inert demolition debris would be disposed at an approved inert landfill location. A State Demolition/Asbestos notification form must be provided to the State of North Dakota ten days prior to demolition.

Water Resources - Provided best management practices (BMPs) are followed, there would be minimal impacts on stormwater, ground water and water quality. The proposed action would have no impact on wastewater.

Biological Resources – BMPs and control measures, including storm drain covers and covering of stockpiles, would be implemented to ensure that impacts to biological resources be kept to a minimum. BMPs would be required to prevent the spread of noxious weeds, minimize soil erosion, and promote the establishment of native plant species.

Socioeconomic Resources - This action would have a minor positive effect on the local economy. Secondary retail purchases would make an additional contribution to the local communities. The implementation of the proposed action, therefore, would provide a short-term, beneficial impact to local retailers during the construction and demolition phase of the project.

Cultural Resources - The proposed action must get approval from the SHPO in a concurrence of “no historic properties affected” prior to demolition of the structure. The proposed action has little potential to impact cultural resources. In the unlikely event any such artifacts were discovered during the demolition, the operator or contractor would be instructed to halt operations and immediately notify Grand Forks AFB civil engineers who would notify the State Historic Preservation Officer.

Land Use - The proposed operation would not have an impact on land use, since the site of the new facility and existing 531 are in the area designated for airfield operations.

Transportation Systems – The proposed operation would have minor adverse impact to transportation systems on base due to vehicles traveling to and from 531 and the adjacent area.

Airspace/Airfield Operations - The proposed action would have a positive impact to aircraft safety or airspace compatibility with the elimination of facility 531 and construction of a new lighting vault.

Safety and Occupational Health – Participants in the construction and demolition must wear appropriate personnel protective equipment (PPE).

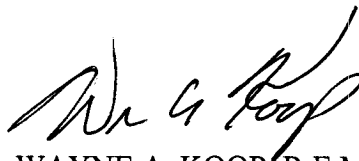
Environmental Management – Provided best management practices (BMPs) are followed, the proposed action would not impact ERP Sites. BMPs would be implemented to prevent erosion.

Environmental Justice - EO 12898 requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. There is no minority or low-income populations in the area of the proposed action or alternatives, and, thus, there would be no disproportionately high or adverse impact on such populations.

A copy of the EA was available at the Grand Forks AFB Public Affairs office, on the public web site, and base administrative notices web page. Public notice was printed in the Grand Forks Herald on September 8, 2007. All interested agencies and persons were invited to submit written comments within thirty days from the public notice. No public comments were received. Agency comments are included on the final pages of the EA.

No adverse environmental impact to any of the areas identified by the AF Form 813 is expected by the proposed action, construction of an airfield lighting vault and demolition of building 531.

CONCLUSION: Based on the Environmental Assessment performed for construction of an airfield lighting vault and demolition of building 531, no significant environmental impact is anticipated from the proposed action. Based upon this finding, an Environmental Impact Statement is not required for this action. This document and the supporting AF Form 813 fulfill the requirements of the National Environmental Policy Act (NEPA), the Council of Environmental Quality (CEQ) regulations implementing NEPA, and Air Force Instruction 32-7061, which implements the CEQ regulations.



WAYNE A. KOOP, R.E.M., YF-02
Environmental Management Flight Chief

OCT 11 2007

Date:

Attachment
Environmental Assessment

Cover Sheet

Agency: United States Air Force (USAF)

Action: The action proposes to Construct an Airfield Lighting Vault and Demolish the existing Airfield Lighting Vault Facility 531 at Grand Forks Air Force Base (AFB), North Dakota.

Contacts: 319 CES/CEVA
525 Tuskegee Airmen Boulevard (Blvd)
Grand Forks AFB, ND 58205

Designation: Environmental Assessment (EA)

Abstract: This EA has been prepared in accordance with the National Environmental Policy Act, and assesses the potential environmental impacts to construct an airfield lighting vault facility and demolish the existing airfield lighting vault facility 531, located at Grand Forks Air Force Base in Grand Forks County, North Dakota. Resource areas analyzed in the EA include Air Quality; Noise; Wastes, Hazardous Materials, and Stored Fuels; Water Resources; Biological Resources; Socioeconomic Resources; Cultural Resources; Land Use; Transportation Systems; Airspace/Airfield Operations; Safety and Occupational Health; Environmental Management; and Environmental Justice.

In addition to the Proposed Action, the Alternative Action and the No Action Alternative were analyzed in the EA. The EA also addresses the potential cumulative effects of the associated activities along with other concurrent actions at Grand Forks AFB and the surrounding area.

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ACRONYMS, ABBREVIATIONS, AND TERMS

AAM	Annual Arithmetic Mean
AC	Alternating Current
ACG	Architectural Compatibility Guidelines
ACM	Asbestos Containing Material
AF	Air Force
AFB	Air Force Base
AFI	Air Force Instruction
AFOSH	Air Force Occupational Safety and Health
AICUZ	Air Installation Compatible Use Zone
AMC	Air Mobility Command
APZ	Accident Potential Zone
ARPA	Archeological Resource Protection Act
ARW	Air Refueling Wing
AST	Above Ground Storage Tank
ATC	Air Traffic Control
AT/FP	Antiterrorism Force Protection
ATR	Air Traffic Radio
Ave	Avenue
BASH	Bird Aircraft Strike Hazard
Bldg	Building
Blvd	Boulevard
BMP	Best Management Practice
BMX	Bike Motocross
BOD	Biochemical Oxygen Demand
BRAC	Base Realignment And Closure
BTU	British Thermal Unit
CAA	Clean Air Act
CDC	Child Development Center
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CES	Civil Engineer Squadron
CEV	Environmental Management Flight
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
dB	decibel
dBA	Decibels Adjusted
DNL	Day-Night Average A-Weighted Sound Level
DoD	Department of Defense
EA	Environmental Assessment

EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERP	Environmental Restoration Program
ESA	Endangered Species Act
F	Fahrenheit
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
ft	Feet
ft ³ /s	feet cubed per meter
FW	Fighter Wing
GATR	Ground-to-Air Transmitter and Receiver
GFAFB	Grand Forks Air Force Base
GPP	Green Procurement Program
HAP	Hazardous Air Pollutants
hr	Hour
HM	Hazardous Material
H ₂ S	Hydrogen Sulfide
HVAC	Heating, Ventilation and Air Conditioning
HW	Hazardous Waste
IAW	in accordance with
IRP	Installation Restoration Program
INRMP	Integrated Natural Resources Management Plan
KV	Kilovolt
KVA	Kilovolt-Ampere
LT	Long-Term
MBTA	Migratory Bird Treaty Act
MFH	Military Family Housing
MILSTD	Military Standard
mph	Miles Per Hour
MSDS	Material Safety Data Sheet
MSL	Mean Sea Level
µg/m ³	Micrograms Per Meter Cubed
MUX	Multiplex(er)

NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
ND	North Dakota
NDAAQS	North Dakota National Ambient Air Quality Standards
NDAC	North Dakota Administrative Code
NDDH	North Dakota Department of Health
NDPDES	North Dakota Pollutant Discharge Elimination System
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Act
NHPA	National Historic Preservation Act
NO _x	Nitrogen Oxides
NO ₂	Nitrogen Dioxide
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRHP	National Register of Historic Places
NWR	National Wildlife Refuge
O ₃	Ozone
OSHA	Occupational Safety and Health Act
OWS	Oil Water Separator
P2	Pollution Prevention
Pb	Lead
PCS	Petroleum-Contaminated Soil
PEM	Palustrine Emergent Wetland
PM ₁₀	Particulate Matter 10 Microns in Diameter
PM _{2.5}	Particulate Matter 25 Microns in Diameter
POL	Petroleum Oil Lubricant
PPE	Personal Protective Equipment
ppm	Parts Per Million
PSD	Prevention of Significant Deterioration
QA/QC	Quality Assessment and Quality Control
RACM	Regulated Asbestos Containing Materials
RCRA	Resource Conservation and Recovery Act
RCS	Report Control Symbol
RH	Relative Humidity
RI/FS	Remedial Investigation/Feasibility Study
RV	Recreational Vehicle
SAGE	Strategic Air Ground Equipment
SAIC	Science Applications International Corporation
SARA	Superfund Amendments and Reauthorization Act
SF	Square Feet

SNG	Synthetic Natural Gas
SO ₂	Sulfur Dioxide
SO _x	Sulfur Dioxide
St	Street
ST	Short-Term
SWMU	Solid Waste Management Unit
TO	Technical Order
tpy	Tons Per Year
TSCA	Toxic Substance Control Act
TSI	Thermal System Insulation
UAV	Unmanned Aerial Vehicle
UHF	Ultra High Frequency
UPS	Uninterruptible Power Supply
US	United States
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USFWS	United States Fish and Wildlife Service
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound
VHF	Very High Frequency

EXECUTIVE SUMMARY

The United States Air Force (USAF) proposes to construct an airfield lighting vault facility and demolish the existing airfield lighting vault facility 531 on Grand Forks Air Force Base (AFB), North Dakota.

Purpose and Need: The purpose of the proposed action is to construct an airfield lighting vault facility. The existing airfield lighting vault was constructed in 1957 and cannot feasibly be repaired or altered to meet current UFC and safety criteria. Current circuitry in the vault carries 4160 volt primary power to all regulators. The configuration and space in the existing building does not provide adequate storage for spare parts and equipment or expandability for new circuits and associated equipment. The basement has severe moisture and drainage problems that persist in spite of previous attempts to solve them. Approach lights are not switchable to a Simplified Approach Lighting System with Runway Alignment Indicator Lights (SSALR). Above ground electrical junction boxes are within area of frangibility (within 250 ft of runway centerline).

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There is a need to eliminate building 531 once the new facility is operational. Demolition of the old facility will be performed. Mission requirements, operational considerations, and location are incompatible with use by other components on base.

Grand Forks Air Force Base proposes that the best action is to construct an airfield lighting vault facility on Grand Forks AFB and demolish building 531.

No Action Alternative 1: The no action alternative would be to leave the facility as is. Building 531 would continue to be an inadequate facility requiring maintenance and repair. If the project is not funded, future airfield operations at Grand Forks AFB will be jeopardized by unreliable airfield lighting circuits as the obsolete vault facility and equipment continue to deteriorate, become increasingly difficult to maintain and obtain replacement parts, and safety issues with the high voltage primary power in the facility continue to present life safety hazards to Air Force electricians.

Proposed Action 2: Grand Forks AFB proposes to repair the existing airfield lighting system by replacing the existing airfield lighting vault with a new airfield lighting vault facility in an

adjacent location using a north-south alignment. The new vault must meet criteria in Unified Facilities Criteria (UFC) 3-535-01, paragraph 12.1.8 and 12.1.8.1. In order to meet AMC standard, lighting regulators must be powered by 480 volts, instead of the present 4160 volt power. Adequate space must be provided for repair and work bench areas and storage of an adequate supply of airfield lighting replacement parts to ensure safe continuous airfield operations in all seasonal weather conditions, including tornadoes. Total facility size should be approximately equal to or less than the total square footage of the existing facility (3,250 SF), while providing adequate space for all electrical components, circuitry, and safety clearances. The existing vault must remain in operation during the entire construction period of the new vault. Grand Forks AFB proposes to repair the airfield lighting system by replacing the airfield lighting vault with a new vault in an adjacent location using a north-south alignment. Approach lights and circuits must meet UFC 3-535-01 and UFC 3-535-01-02. Remove or relocate junction boxes in the area of frangibility. Proposed work includes masonry construction, concrete floor slab on grade with footings, standing seam metal roof, overhead door, underground electrical service, access road, parking area, appropriate HVAC with positive air pressure, fire alarm, detection, and suppression system, and all required site improvements. Provide high speed internet connection (LAN line), parts storage, restroom, and workbench area. Include force protection, site improvements, and demolition of existing facility 531 with equipment disposal.

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Air Quality - Air Quality is considered good and the area is in attainment for all criteria pollutants. No significant impacts to air quality would result because of construction and demolition activities.

Noise - The construction of a new facility and the demolition of building 531 would create additional noise. The increase in noise would be negligible and only occur during construction and demolition.

Wastes, Hazardous Materials, and Stored Fuels - The increase in hazardous and solid wastes from construction of a new facility and demolition of building 531 would be temporary. Solid waste debris would be disposed of in an approved location, such as the Grand Forks Municipal Landfill. Inert demolition debris would be disposed at an approved inert landfill location. A State Demolition/Asbestos notification form must be provided to the State of North Dakota ten days prior to demolition.

Water Resources - Provided best management practices (BMPs) are followed, there would be minimal impacts on stormwater, ground water and water quality. The proposed action would have no impact on wastewater.

Biological Resources – BMPs and control measures, including storm drain covers and covering of stockpiles, would be implemented to ensure that impacts to biological resources be kept to a minimum. BMPs would be required to prevent the spread of noxious weeds, minimize soil erosion, and promote the establishment of native plant species.

Socioeconomic Resources - This action would have a minor positive effect on the local economy. Secondary retail purchases would make an additional contribution to the local communities. The implementation of the proposed action, therefore, would provide a short-term, beneficial impact to local retailers during the construction and demolition phase of the project.

Cultural Resources - The proposed action must get approval from the SHPO in a concurrence of “no historic properties affected” prior to demolition of the structure. The proposed action has little potential to impact cultural resources. In the unlikely event any such artifacts were discovered during the demolition, the operator or contractor would be instructed to halt operations and immediately notify Grand Forks AFB civil engineers who would notify the State Historic Preservation Officer.

Land Use - The proposed operation would not have an impact on land use, since the site of the new facility and existing 531 are in the area designated for airfield operations.

Transportation Systems – The proposed operation would have minor adverse impact to transportation systems on base due to vehicles traveling to and from 531 and the adjacent area.

Airspace/Airfield Operations - The proposed action would have a positive impact to aircraft safety or airspace compatibility with the elimination of facility 531 and construction of a new lighting vault.

Safety and Occupational Health – Participants in the construction and demolition must wear appropriate personnel protective equipment (PPE).

Environmental Management – Provided best management practices (BMPs) are followed, the proposed action would not impact ERP Sites. BMPs would be implemented to prevent erosion.

Environmental Justice - EO 12898 requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. There is no minority or low-income populations in the area of the proposed action or alternatives, and, thus, there would be no disproportionately high or adverse impact on such populations.

1.0 PURPOSE OF AND NEED FOR PROPOSED ACTION

This Environmental Assessment (EA) examines the potential for impacts to the environment resulting from construction of a new airfield lighting vault and demolition of building 531 on Grand Forks Air Force Base (AFB). As required by the National Environmental Policy Act (NEPA) of 1969, federal agencies must consider environmental consequences in their decision-making process. The EA provides analysis of the potential environmental impacts from both the proposed action and its alternatives. The environmental assessment is assigned RCS number 2005-074. The project number assigned is JFSD200613 and JFSD200613D. A copy of the AF 813 initiating the assessment and the real property record cards are found in Appendix D.

1.1 INTRODUCTION

Located in northeastern North Dakota (ND), Grand Forks AFB is the first core refueling wing in Air Mobility Command (AMC) and home to 39 KC-135R Stratotanker aircraft. The host organization at Grand Forks AFB is the 319th Air Refueling Wing (ARW). Its mission is to guarantee global reach, by extending range in the air, supplying people and cargo where and when they are needed and provides air refueling and airlift capability support to United States Air Force (USAF) operations anywhere in the world, at any time. Organizational structure of the 319th ARW consists primarily of an operations group, maintenance group, mission support group, and medical group.

The location of the proposed action (and the alternative actions) would be at Grand Forks AFB, ND. Grand Forks AFB covers approximately 5,420 acres of government-owned land and is located in northeastern ND, about 14 miles west of Grand Forks, along United States (US) Highway 2. Grand Forks (population 49,321) is the third largest city in ND. Appendix A includes a Location Map. The city, and surrounding area, is a regional center for agriculture, education, and government. It is located approximately 160 miles south of Winnipeg, Manitoba, and 315 miles northwest of Minneapolis, Minnesota. The total base population, as of May 2006, is approximately 5,853. Of that, 2,665 are military, 2,790 are military dependents, and 398 civilians working on base (Grand Forks AFB, 2006).

The Base Realignment and Closure (BRAC) 2005 Report submitted by the President to Congress became final after November 8, 2005. This is an important milestone in the restructuring of DoD's domestic base structure within the process established by Congress. The Department must begin this implementation process within 2 years from the date the President submitted to the Congress (September 15, 2005) and complete it within 6 years. The BRAC Commission's final recommendation included realignment of the 319th Air Refueling Wing's KC-135-R/T aircraft to Scott AFB, Seymour-Johnson AFB, MacDill AFB, Hickam AFB and McConnell AFB. It recommended modification of infrastructure at Grand Forks AFB to accommodate the emerging Unmanned Aerial Vehicle (UAV) mission, later renamed the Unmanned Aircraft System (UAS). Twelve KC-135 aircraft would remain at Grand Forks AFB to facilitate an efficient and cost effective bed down of the UAS. The tankers would remain in place until the UAS is operational at GFAFB, but not later than 2010, unless otherwise required for national emergencies. A loss of 1,406 personnel is anticipated. Grand Forks would remain an active Air Force installation with a new active duty/Air National Guard association unit created in

anticipation of emerging missions at Grand Forks. The 119th Fighter Wing at Hector International Airport Air National Guard Station at Fargo ND would be redesignated as a UAS wing, and facilities in Fargo would be expanded to accommodate the UAS ground control and intelligence analysis functions and expeditionary combat support elements. The Air Force would construct appropriate facilities on GFafb to launch, recover, maintain and support the UAS assigned to the 119th FW.

1.2 NEED FOR THE ACTION

The existing airfield lighting vault in building 531 was constructed in 1957 and cannot feasibly be repaired or altered to meet current UFC and safety criteria. Current circuitry in the vault carries 4160 volt primary power to all regulators. The configuration and space in the building does not provide adequate storage for spare parts and equipment or expandability for new circuits and associated equipment. The basement has severe moisture and drainage problems that persist in spite of previous attempts to solve them. Approach lights are not switchable to a Simplified Approach Lighting System with Runway Alignment Indicator Lights (SSALR). Above ground electrical junction boxes are within area of frangibility (within 250 ft of runway centerline). A new facility is programmed for construction north of the existing facility and the existing equipment would be moved into the new facility. Building 531 would not be required once the new facility is constructed. The facility would degenerate from non-use, while continuing to require manpower and funding for utilities, maintenance and upkeep. Therefore demolition of 531 is proposed. Photographs of the existing facility and the adjacent open area for the proposed new facility are found in Appendix F.

1.3 OBJECTIVES FOR THE ACTION

Grand Forks AFB proposes to construct an airfield lighting vault facility. Demolition of building 531 would provide room for a new mission or a new use of the land area. Demolition would reduce maintenance and utility costs. A map of the location of the proposed demolition is located in Appendix E.

1.4 SCOPE OF EA

This EA identifies, describes, and evaluates the potential environmental impacts associated with the construction of an airfield lighting vault and demolition of building 531 on Grand Forks AFB. This analysis covers only those items listed above. It does not include any previous demolition or demolition of facilities, parking lots, associated water drainage structures, or other non-related demolition and construction activities.

The following must be considered under the NEPA, Section 102(E).

- Air Quality
- Noise
- Wastes, Hazardous Materials, and Stored Fuels
- Water Resources
- Biological Resources

- Socioeconomic Resources
- Cultural Resources
- Land Use
- Transportation Systems
- Airspace/Airfield Operations
- Safety and Occupation Health
- Environmental Management
- Environmental Justice

1.5 DECISION(S) THAT MUST BE MADE

This EA evaluates the environmental consequences from construction of a new airfield lighting vault facility and demolition of building 531 on Grand Forks AFB. NEPA requires that environmental impacts be considered prior to final decision on a proposed project. The Environmental Management Flight Chief would determine if a Finding of No Significant Impact can be signed or if an Environmental Impact Statement (EIS) must be prepared. Preparation of an environmental analysis must be accomplished prior to a final decision regarding the proposed project and must be available to inform decision makers of potential environmental impacts of selecting the proposed action or any of the alternatives.

1.6 APPLICABLE REGULATORY REQUIREMENTS AND REQUIRED COORDINATION

These regulations require federal agencies to analyze potential environmental impacts of proposed actions and alternatives and to use these analyses in making decisions on a proposed action. All cumulative effects and irretrievable commitment of resources must also be assessed during this process. The Council on Environmental Quality (CEQ) regulations declares that an EA is required to accomplish the following objectives:

- Briefly provide sufficient evidence and analysis for determining whether to prepare an EIS or a Finding of No Significant Impact (FONSI).
- Aid in an agency's compliance with NEPA when an EIS is not necessary, and facilitate preparation of an EIS when necessary.

Air Force Instruction (AFI) 32-7061 as promulgated in 32 Code of Federal Regulations (CFR) 989, specifies the procedural requirements for the implementation of NEPA and the preparation of an EA. Other environmental regulatory requirements relevant to the proposed action and alternatives are also in this EA. Regulatory requirements including, but not restricted to the following programs would be assessed:

- AF Environmental Impact Analysis Process (EIAP) (32 CFR 989)
- AFI 32-7020, Environmental Restoration Program
- AFI 32-7040, Air Quality Compliance
- AFI 32-7041, Water Quality Compliance
- AFI 32-7042, Solid and Hazardous Waste Compliance

- AFI 32-7063, Air Installation Compatible Use Zone (AICUZ) Program
- AFI 32-7064, Integrated Natural Resource Management
- Archaeological Resources Protection Act (ARPA) [16 U.S.C. Sec 470a-11, et seq., as amended]
- Clean Air Act (CAA) [42 U.S.C. Sec 7401, et seq., as amended]
- Clean Water Act (CWA) [33 U.S.C. Sec 400, et seq.]
- CWA [33 U.S.C. Sec 1251, et seq., as amended]
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) [42 U.S.C. Sec. 9601, et seq.]
- Defense Environmental Restoration Program [10 U.S.C. Sec. 2701, et seq.]
- Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 [42 U.S.C. Sec. 11001, et seq.]
- Endangered Species Act (ESA) [16 U.S.C. Sec 1531-1543, et seq.]
- Executive Order (EO) 11514, Protection and Enhancement of Environmental Quality as Amended by EO 11991
- EO 11988, Floodplain Management
- EO 11990, Protection of Wetlands
- EO 12372, Intergovernmental Review of Federal Programs
- EO 12898, Environmental Justice
- EO 12989 Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations
- EO 13045, Protection of Children from Environmental Health Risks and Safety Risks
- Hazardous Materials Transportation Act of 1975 [49 U.S.C. Sec 1761, et seq.]
- NEPA of 1969 [42 U.S.C. Sec 4321, et seq.]
- National Historic Preservation Act (NHPA) of 1966 [16 U.S.C. Sec 470, et seq., as amended]
- The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 [Public Law 101-601, 25 U.S.C. Sec. 3001-3013, et seq.]
- Noise Control Act of 1972 [42 U.S.C. Sec. 4901, et seq., Public Law 92-574]
- ND Air Pollution Control Act (Title 23) and Regulations
- ND Air Quality Standards (Title 33)
- ND Hazardous Air Pollutants Emission Standards (Title 33)
- Occupational Safety and Health Act (OSHA) of 1970 [29 U.S.C. Sec. 651, et seq.]
- Resource Conservation and Recovery Act (RCRA) of 1976 [42 U.S.C. Sec. 6901, et seq.]
- Toxic Substances Control Act (TSCA) of 1976 [15 U.S.C. Sec. 2601, et seq.]

Grand Forks AFB has a National Pollutant Discharge Elimination System (NPDES) permit for both waste water and storm water to cover base-wide industrial activities. Implementation of the proposed action for construction of a new facility and demolition of 531 would disturb slightly more than one acre, and thus require the need for Grand Forks AFB or the construction and demolition contractor(s) to obtain a separate NPDES Construction permit from the North Dakota Department of Health (NDDH). Our general small site permit would not cover this activity near

Building 531 and would need to be tracked by the demolition agent IAW the appropriate rules. The permit would allow discharge of storm water runoff until the site is stabilized by the reestablishment of vegetation or other permanent cover. Information and applications for storm water discharge permit can be found at <http://www.health.state.nd.us/WQ/Storm/Construction/ConstructionHome.htm>. Small Construction Activity is defined as a site that is equal to or greater than 1 acre and less than 5 acres in size.

Scoping for this EA included discussion of relevant issues with members of the environmental management and bioenvironmental flights. Scoping letters requesting comments on possible issues of concern are sent to agencies with pertinent resource responsibilities. In accordance with 32 CFR 989, a copy of the final EA is submitted to the ND Division of Community Services.

Applicable regulatory requirements and required coordination before and during construction include a Work Clearance Request, Stormwater Protection Plan, Dust Control Plan, Spill Control Plan, and Erosion and Sediment Control Plan to the CEV Water Program Manager; a Spill Control Plan and Waste Disposal Plan to the CEV Pollution Prevention Manager; and copies of all plans to the Contracting Officer.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

Based on the descriptions of the relevant environmental resources presented in Section 3 and the predictions and analyses presented in Section 4, this section presents a comparative summary matrix of the alternatives (the heart of the analysis), providing the decision maker and the public with a clear basis for choice among the alternatives.

This section has five parts:

- Selection Criteria for Alternatives
- Alternatives Considered but Eliminated from Detailed Study
- Detailed Descriptions of the Three Alternatives Considered
- Comparison of Environmental Effects of the Proposed Action and Alternatives
- Identification of the Preferred Alternative

2.2 SELECTION CRITERIA FOR ALTERNATIVES

Selection criteria used to evaluate the Proposed and Alternative Actions include the following:

A means to provide a safe and secure operational and storage area for a highly valuable airfield lighting system.

A cost effective method to dispose of an excess facility assigned to Grand Forks AFB.

Mission requirements, to include efficiency, effectiveness, legality, force protection and safety to meet Air Force requirements.

Environmental standards, to include OSHA, AFOSH, NFPA, AFI, CFR, EPA and North Dakota standards for noise, air, water, safety, hazardous materials, hazardous waste, vegetation, cultural, geology, soils, and socioeconomics.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

There was an alternative to remodel the existing facility considered, but eliminated from detailed study. The existing airfield lighting vault in building 531 was constructed in 1957 and cannot feasibly be repaired or altered to meet current UFC and safety criteria. Current circuitry in the vault carries 4160 volt primary power to all regulators, while lighting regulators must be powered by 480 volts to meet the AMC standard. The configuration and space in the building does not provide adequate storage for spare parts and equipment or expandability for new circuits and associated equipment. The basement has severe moisture and drainage problems that persist in spite of previous attempts to solve them. Approach lights are not switchable to a Simplified Approach Lighting System with Runway Alignment Indicator Lights (SSALR). Above ground electrical junction boxes are within area of frangibility (within 250 ft of runway centerline). It was determined that a modern, functionally designed, facility is needed for an efficient, effective operation of the new equipment.

2.4 DESCRIPTION OF PROPOSED ALTERNATIVES

This section describes the activities that would occur under three alternatives: the no action alternative, the proposed action, and action alternative. These three alternatives provide the decision maker with a reasonable range of alternatives from which to choose.

2.4.1 Alternative 1 (No Action Alternative): Status Quo

The no action alternative would be to leave the facility as it is. Future airfield operations at Grand Forks AFB would be jeopardized by unreliable airfield lighting circuits as the obsolete vault facility and equipment continue to deteriorate and fail to meet current UFC and safety criteria and fail to meet AMC standard. Approach lights would not be switchable to a Simplified Approach Lighting System with Runway Alignment Indicator Lights (SSALR). Above ground electrical junction boxes would remain within the area of frangibility (within 250 ft of runway centerline). Equipment would remain increasingly difficult to maintain and replacement parts difficult to obtain. Safety issues involving the high voltage primary power would continue to present life safety hazards to the Air Force. The configuration and space in the building would not provide adequate storage for spare parts and equipment or expandability for new circuits and associated equipment. The basement would continue to have severe moisture and drainage problems. The obsolete facility would continue to deteriorate, require maintenance and repair, and detract from the appearance of the base.

2.4.2 Alternative 2 (Proposed Action):

Grand Forks AFB proposes to repair the airfield lighting system by replacing the airfield lighting vault with a new vault in an adjacent location. The new vault must meet criteria in UFC 3-535-01, paragraph 12.1.8 and 12.1.8.1. Lighting regulators must be powered by 480 volts, instead of the present 4160 volt power. Adequate space must be provided for repair and work bench areas and storage of an adequate supply of airfield lighting replacement parts to ensure safe continuous airfield operations in all seasonal weather conditions. Total facility size should be approximately equal to or less than the total square footage of the existing facility, while providing adequate space for all electrical components, circuitry, and safety clearances. The existing vault must remain in operation during the entire construction period of the new vault. Approach lights and circuits must meet UFC 3-535-01 and UFC 3-535-01-02.

Masonry construction, concrete floor slab on grade with footings, standing seam metal roof, overhead door, underground electrical service, access road, appropriate HVAC with positive air pressure, fire alarm, detection, and suppression system, and all required site improvements are proposed. The electric service will consist of commercial 480 VAC, new generator with automatic transfer switch (self-contained unit with fuel storage with 72 hours of uninterrupted operation), all required constant current Ferro resonant regulators, PAPI circuit selection switch, beacon control, strobe control, and airfield lighting control system. All internal and external communication cabling, equipment, and storage as outlined in ETL 2-12. S1 cutouts on all circuit setups with intentional ground switch with ground current indication switch (DOD MIL-HDBK 1023/4, pg 87, figure 24), computer control system that automatically MEGS cables and has a LOTO capability, manhole duct banks with cable pulling eyes above duct banks, rubber floor matting, overhead crane system, floor lift system, mounted air compressor, work/test bench with 120, 240, and 480 Volt power, and floor drains are proposed. An overhead wire way for

power runs to equipment, partition between high and low voltage areas, new low-voltage switchgear, transfer switch, panel boards, storage for all equipment and parts, and all equipment to make a complete and usable airfield lighting vault would be used. The project would reconfigure and add circuits to bring approach lights in compliance with UFC 3-535-01 and 3-535-01-02. Remove or relocate junction boxes in the area of frangibility; install new switchgear type regulators and home run cables/conduits, rewire approach lights for SSALR and install correct number of circuits; provide high speed internet connection (LAN line), parts storage, restroom, and workbench area; and include force protection, site improvements, and demolition of existing facility with equipment disposal.

Demolish Building 531. Excavate, remove and dispose of all associated structures, piping, electronics, communications, lighting, utilities and debris. Backfill and compact the site excavation area. Remove all utilities to the junction point nearest the building. Cap utilities as needed. Deliver the transformers to the base electric shop once power is terminated. Recycle the electronics and metals. Remove all hazardous materials, such as lead, lead-base paint, mercury, asbestos, etc., according to the latest federal, state or local codes. All hazardous material abatement, such as PCB ballast or mercury switch removal, shall be complete before the building demolition commences. The building foundation and footings shall be entirely removed to ten feet below the existing surface. Off-site clean fill shall be used to backfill. Concrete may not be used as site fill. The backfill material shall be free of bentonite, trash, frozen or organic material including lignites, humus, sod, grass, roots or other vegetation. The backfill material shall not be of a size greater than 3 inches, may not contain more than 12 percent shale, and not may contain greater than 20% sand. A minimum of six inches of topsoil shall be placed over the site and graded to match surrounding contours and be sodded. The concrete from the foundations may be salvaged by the contractor or hauled to a licensed landfill.

A map of the location of this proposed construction and demolition is located in Appendix E. Photographs of the existing facility and proposed new siting area are found in Appendix F.

2.4.3 Alternative 3: Construct a new vault in an east-west alignment. Reutilize or renovate facility 531 for another mission.

2.5 DESCRIPTION OF PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS RELEVANT TO CUMULATIVE IMPACTS

Impacts from the Proposed Action would be concurrent with other actions occurring at Grand Forks AFB. There are several other construction and demolition projects occurring on Grand Forks AFB in the same time frame. These projects are addressed under separate NEPA documents. Related EIAP documents are the environmental assessments accomplished in RCS# 00-022 Repair Airfield Lighting Vault Drain, and 99-156 Install Runway Lighting Control.

2.6 SUMMARY COMPARISON OF THE EFFECTS OF ALL ALTERNATIVES

Potential impacts from implementing the No Action Alternative, the Proposed Action, and Alternative are discussed in detail in Chapter 4.

2.7 IDENTIFICATION OF PREFERRED ALTERNATIVE

The preferred alternative is the proposed action to construct an airfield lighting vault facility and demolish Building 531..

Table 2.6.1: Summary of Environmental Impacts

	No Action Alternative 1	Proposed Action 2 Demolish	Alternative Action 3 Reutilize	
Legend: ST = short-term; LT = long-term				
Air Quality	None	Minor Adverse ST Impact	Minor Adverse ST Impact	
Noise	None	Minor Adverse ST Impact	Minor Adverse ST Impact	
Wastes, Hazardous Materials, and Stored Fuels	None	Adverse ST Impact	Minor Adverse ST Impact	
Water Resources				
Ground Water	None	Minor Adverse ST Impact	Minor Adverse ST Impact	
Surface Water	None	Minor Adverse ST Impact	Minor Adverse ST Impact	
Wastewater	None	None	None	
Water Quality	None	None	None	
Wetlands	None	None	None	
Biological Resources				
Vegetation	None	Minor Adverse ST Impact	Minor Adverse ST Impact	
Noxious Weeds	None	Minor Adverse ST Impact	Minor Adverse ST Impact	
Wildlife	None	Minor Adverse ST Impact	Minor Adverse ST Impact	
Threatened and Endangered Species	None	Minor Adverse ST Impact	Minor Adverse ST Impact	
Socioeconomic Resources	None	Beneficial ST Impact	Beneficial ST Impact	
Cultural Resources	None	None	None	
Land Use	None	None	None	
Transportation Systems	None	Minor Adverse ST Impact	Minor Adverse ST Impact	
Airspace/Airfield Operations				
Aircraft Safety	None	Beneficial LT Impact	Beneficial LT Impact	
Airspace Compatibility	None	None	None	
Safety and Occupational Health	None	Minor Adverse ST Impact	Minor Adverse ST Impact	
Environmental Management				
Installation Restoration Program	None	None	None	
Geological Resources	None	None	None	
Pesticide Management	None	None	None	
Environmental Justice	None	None	None	

3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This section describes the operational concerns and the environmental resources relevant to the decision that must be made concerning this proposed action. Environmental concerns and issues relevant to the decision to be made and the attributes of the potentially affected environment are studied in greater detail in this section. This descriptive section, combined with the definitions of the alternatives in Section 2, and their predicted effects in Section 4, establish the scientific baseline against which the decision-maker and the public can compare and evaluate the activities and effects of all the alternatives.

3.2 AIR QUALITY

Grand Forks AFB has a humid continental climate that is characterized by frequent and drastic weather changes. The summers are short and humid with frequent thunderstorms. Winters are long and severe with almost continuous snow cover. The spring and fall seasons are generally short transition periods. The average annual temperature is 40°F and the monthly mean temperature varies from 6°F in January to 70°F in July. Mean annual precipitation is 19.5 inches. Rainfall is generally well distributed throughout the year, with summer being the wettest season and winter the driest. An average of 34 thunderstorm days per year is recorded, with some of these storms being severe and accompanied by hail and tornadoes. Mean annual snowfall recorded is 40 inches with the mean monthly snowfall ranging from 1.6 inches in October to 8.0 inches in March. Relative humidity averages 58 percent annually, with highest humidity being recorded in the early morning. The average humidity at dawn is 76 percent. Mean cloud cover is 48 percent in the summer and 56 percent in the winter (USAF, 2003).

Table 3.2-1: Climate Data for Grand Forks AFB, ND						
	Mean Temperature (°F)			Precipitation (Inches)		
	Daily			Monthly		
Month	Maximum	Minimum	Monthly	Mean	Maximum	Minimum
January	15	-1	6	0.7	2.4	0.1
February	21	5	13	0.5	3.2	0.0
March	34	18	26	1.0	2.9	0.0
April	53	32	41	1.5	4.0	0.0
May	69	47	56	2.5	7.8	0.5
June	77	56	66	3.0	8.1	0.8
July	81	61	70	2.7	8.1	0.5
August	80	59	67	2.6	5.5	0.1
September	70	49	57	2.3	6.2	0.3
October	56	37	44	1.4	5.7	0.1
November	34	20	26	0.7	3.3	0.0
December	20	6	12	0.6	1.4	0.0
Source: AFCCC/DOO, October 1998						

Wind speed averages 10 miles per hour (mph). A maximum wind speed of 74 mph has been recorded. Wind direction is generally from the northwest during the late fall, winter, and spring, and from the southeast during the summer.

Grand Forks County is included in the ND Air Quality Control Region. This region is in attainment status for all criteria pollutants. In 1997, the ND Department of Health (NDDH) conducted an Air Quality Monitoring Survey that indicated that the quality of ambient air in ND is generally good as it is located in an attainment area (NDDH, 1998). Grand Forks AFB has an air permit T5-F78004 (permit to operate) issued by NDDH and a CAA Title V air emissions permit.

The United States Environmental Protection Agency (USEPA) established the National Ambient Air Quality Standards (NAAQS), which define the maximum allowable concentrations of pollutants that may be reached, but not exceeded within a given time period. The NAAQS regulates the following criteria pollutants: Ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), and particulate matter. The ND Ambient Air Quality Standards (NDAAQS) were set by the State of ND. These standards are more stringent and emissions for operations in ND must comply with the Federal or State standard that is the most restrictive. There is also a standard for hydrogen sulfide (H₂S) in ND.

Prevention of significant deterioration (PSD) regulations establishes SO₂, particulate matter 10 microns in diameter (PM₁₀), and NO₂ that can be emitted above a premeasured amount in each of three class areas. Grand Forks AFB is located in a PSD Class II area where moderate, well-controlled industrial growth could be permitted. Class I areas are pristine areas and include national parks and wilderness areas. Significant increases in emissions from stationary sources (100 tons per year (tpy) of CO, 40 tpy of nitrogen oxides (NO_x), volatile organic compounds (VOCs), or sulfur oxides (SO_x), or 15 tpy of PM₁₀) and the addition of major sources requires compliance with PSD regulations. There is also a 25 ton/year level for total particulate.

Air pollutants include O₃, CO, NO₂, SO₂, Pb, and particulate matter. Ground disturbing activities create PM₁₀ and particulate matter 2.5 microns in diameter (PM_{2.5}). Combustion creates CO, SO₂, PM₁₀, and PM_{2.5} particulate matter and the precursors (VOC and NO₂) to O₃. Only small amounts of Hazardous Air Pollutants (HAP) are generated from internal combustion processes or earth-moving activities. The Grand Forks AFB Final Emissions Survey Report (USAF, 1996) reported that Grand Forks AFB only generated small levels HAPs, 10.3 tpy of combined HAPs and 2.2 tpy maximum of a single HAP (methyl ethyl ketone). Methyl Ethyl Ketone is associated with aircraft and vehicle maintenance and repair. Secondary sources include fuel storage and dispensing (USAF, 2001a).

Table 3.2-2
National Ambient Air Quality Standards (NAAQS) and ND Ambient Air Quality Standards (NDAAQS)

Pollutant	Averaging Time	NAAQS $\mu\text{g}/\text{m}^3$ (ppm) ^a		NDAAQS $\mu\text{g}/\text{m}^3$ (ppm) ^a
		Primary ^b	Secondary ^c	
O ₃	1 hr 8 hr ^e	235 (0.12) 157 (0.08)	Same Same	Same None
CO	1 hr 8 hr	40,000 (35) 10,000 (9)	None None	40,000 (35) 10,000 (9)
NO ₂	AAM ^d	100 (0.053)	Same	Same
SO ₂	1 hr 3 hr 24 hr AAM	None None 365 (0.14) 80 (0.03)	None 1,300 (0.5) None None	715 (0.273) None 260 (0.099) 60 (0.023)
PM ₁₀	AAM 24 hr	50 150	Same Same	Same Same
PM _{2.5} ^e	AAM 24 hr	65 15	Same Same	None None
Pb	¼ year	1.5	Same	Same
H ₂ S	1 hr 24 hr 3 mth AAM Instantaneous	None None None None	None None None None	280 (0.20) 140 (0.10) 28 (0.02) 14 (10) 14 (10)

^a $\mu\text{g}/\text{m}^3$ – micrograms per cubic meter; ppm – parts per million

^bNational Primary Standards establish the level of air quality necessary to protect the public health from any known or anticipated adverse effects of pollutant, allowing a margin of safety to protect sensitive members of the population.

^cNational Secondary Standards establish the level of air quality necessary to protect the public welfare by preventing injury to agricultural crops and livestock, deterioration of materials and property, and adverse impacts on the environment.

^dAAM – Annual Arithmetic Mean.

^eThe Ozone 8-hour standard and the PM 2.5 standards are included for information only. A 1999 federal court ruling blocked implementation of these standards, which USEPA proposed in 1997. USEPA has asked the US Supreme Court to reconsider that decision (USEPA, 2000).

PM₁₀ is particulate matter equal to or less than 10 microns in diameter.

PM_{2.5} is particulate matter equal to or less than 2.5 microns in diameter.

Source: 40 CFR 50, ND Air Pollution Control Regulations – North Dakota Administrative Code (NDAC) 33-15

3.3 NOISE

Noise generated on Grand Forks AFB consists mostly of aircraft, vehicular traffic and demolition activity. Most noise is generated from aircraft during takeoff and landing and not from ground traffic. Noise levels are dependent upon type of aircraft, type of operations, and distance from the observer to the aircraft. Duration of the noise is dependent upon proximity of the aircraft, speed, and orientation with respect to the observer.

Table 3.3-1 Typical Decibel Levels Encountered in the Environment and Industry			
Sound Level (dBa) ^a	Maximum Exposure Limits	Source of Noise	Subjective Impression
10			Threshold of hearing
20		Still recording studio; Rustling leaves	
30		Quiet bedroom	
35		Soft whisper at 5 ft ^b ; Typical library	
40		Quiet urban setting (nighttime); Normal level in home	Threshold of quiet
45		Large transformer at 200 ft	
50		Private business office; Light traffic at 100 ft; Quiet urban setting (daytime)	
55		Window air conditioner; Men's clothing department in store	Desirable limit for outdoor residential area use (EPA)
60		Conversation speech; Data processing center	
65		Busy restaurant; Automobile at 100 ft	Acceptable level for residential land use
70		Vacuum cleaner in home; Freight train at 100 ft	Threshold of moderately loud
75		Freeway at 10 ft	
80		Ringling alarm clock at 2 ft; Kitchen garbage disposal; Loud orchestral music in large room	Most residents annoyed
85		Printing press; Boiler room; Heavy truck at 50 ft	Threshold of hearing damage for prolonged exposure
90	8 hr ^c	Heavy city traffic	
95	4 hr	Freight train at 50 ft; Home lawn mower	
100	2 hr	Pile driver at 50 ft; Heavy diesel equipment at 25 ft	Threshold of very loud
105	1 hr	Banging on steel plate; Air Hammer	
110	0.5 hr	Rock music concert; Turbine condenser	
115	0.25 hr	Jet plane overhead at 500 ft	
120	< 0.25 hr	Jet plane taking off at 200 ft	Threshold of pain
135	< 0.25 hr	Civil defense siren at 100 ft	Threshold of extremely loud
^a dBA – decibals ^b ft – feet ^c hr - hours Source: US Army, 1978			

Table 3.3-2 Approximate Sound Levels (dBa) of Construction Equipment						
Equipment Type	Sound Levels (dBa) at Various Distances (ft)					
	50	100	200	400	800	1,600
Front-end Loader	84	78	72	66	60	54
Dump Truck	83	77	71	65	59	53
Truck	83	77	71	65	59	53
Tractor	84	78	72	66	58	52
Source: Thurman, 1976; US Army, 1978						

Because military installations attract development in proximity to their airfields, the potential exists for urban encroachment and incompatible development. The USAF utilizes a program known as AICUZ to help alleviate noise and accident potential problems due to unsuitable community development. AICUZ recommendations give surrounding communities alternatives to help prevent urban encroachment. Noise contours are developed from the Day-Night Average A-Weighted Sound Level (DNL) data which defines the noise created by flight operations and ground-based activities. The AICUZ also defines Accident Potential Zones (APZs), which are rectangular corridors extending from the ends of the runways. Recommended land use activities and densities in the APZs for residential, commercial, and industrial uses are provided in the base's AICUZ study. Grand Forks AFB takes measures to minimize noise levels by evaluating aircraft operations. Blast deflectors are utilized in designated areas to deflect blast and minimize exposure to noise.

3.4 WASTES, HAZARDOUS MATERIALS, AND STORED FUELS

3.4.1 Hazardous Waste, Hazardous Material, Recyclable Material

Hazardous wastes, as listed under the RCRA, are defined as any solid, liquid, contained gaseous, or combination of wastes that pose a substantive or potential hazard to human health or the environment. On-base hazardous waste generation involves three types of on-base sites: an accumulation point (90-day), satellite accumulation points, and spill cleanup equipment and materials storage (USAF, 2001c). Discharge and emergency response equipment is maintained in accessible areas throughout Grand Forks AFB. The Fire Department maintains adequate fire response and discharge control and containment equipment. Equipment stores are maintained in buildings 409 and 530. Petroleum contaminated soils generated from excavations throughout the base can be treated at the land treatment facility located on base. These solid wastes are tilled or turned a minimum of four times a year to remediate the soils to acceptable levels.

Recyclable materials from industrial facilities are collected in the recycling facility, in building 671. Paper, cardboard, and wood are collected in separate storage bins. Glass, plastics and metal cans are commingled. Curbside containers are used in housing for recyclable materials. A contractor collects these materials and transports them off base for processing.

The Environmental Management Flight manages the hazardous material through a contract with Science Applications International Corporation (SAIC). Typical hazardous materials include materials such as ignitables, corrosives, reactives, and toxics. Improper storage can impact human health and the safety of the environment.

3.4.2 Underground and Above Ground Storage Tanks

Since Grand Forks AFB is a military installation with a flying mission, there are several aboveground and underground fuel storage tanks (ASTs and USTs). Gasoline, diesel fuel, heating fuel, JP-8 aircraft fuel, and oil-water separator (OWS)-recovered oils are stored in thirty-nine (39) USTs. Twenty (20) regulated USTs include three (3) gasoline tanks, eight (8) diesel tanks, three (3) JP-8 tanks, and six (6) OWS product recovery tanks. Deferred USTs include five (5) JP-8 tanks. Five (5) USTs exempt from regulation include one (1) heating oil tank, three (3)

emergency spill containment tanks, and one (1) hydraulic oil recovery tank. Gasoline, diesel fuel, heating oil, JP-8, and used oil are stored in fifty-eight (58) ASTs. The majority of petroleum is JP-8 stored in six (6) tanks with a capacity of 3,990,000 gallons for the hydrant fuel system. Diesel fuel is stored in forty-five (45) tanks primarily for emergency generators. Other tanks include: heating oil stored in three (3) tanks; gasoline stored in two (2) tanks; and, used oil stored in three (3) tanks. All ASTs either have secondary containment or are programmed to have secondary containment installed. The six (6) hydrant fuel system tanks each are contained by a concrete dike system. Runway deicing fluid (potassium acetate) is stored in two (2) 5000 gallon tanks while aircraft deicing fluid (propylene glycol) is stored in a 20,000 gallon tank (Type I) and a 4,000 gallon tank (Type IV). A map of environmental sites is found in Appendix C.

3.4.3 Solid Waste Management

Hard fill, demolition debris, and inert waste generated by Grand Forks AFB are disposed of at a permitted off-base landfill. All on-base household garbage and solid waste is collected by a contractor and transported to the Grand Forks County Landfill, which opened in 1982. The majority of demolition debris is disposed of at Berger Inert Landfill (permit number IT-198) while municipal waste and asbestos waste is disposed of at the Grand Forks Landfill (SW-069). GFAFB also operates a land treatment facility (IT-183) for the remediation of petroleum-contaminated soils (PCSs). PCSs are generated on-base through spills, are encountered while excavating for various subsurface repairs, or encountered while replacing or removing underground storage tanks and piping.

3.5 WATER RESOURCES

3.5.1 Ground Water

Chemical quality of ground water is dependent upon the amount and type of dissolved gases, minerals, and organic material leached by water from surrounding rocks as it flows from recharge to discharge areas. The water table depth varies throughout the base, from a typical 1-3 ft to 10 ft or more below the surface.

Even though the Dakota Aquifer has produced more water than any other aquifer in Grand Forks County, the water is very saline and generally unsatisfactory for domestic and most industrial uses. Its primary use is for livestock watering. It is sodium chloride type water with total dissolved solids concentrations of about 4,400 ppm. The water generally contains excessive chloride, iron, sulfate, total dissolved solids, and fluoride. The water from the Dakota is highly toxic to most domestic plants and small grain crops, and in places, the water is too highly mineralized for use as livestock water (Hansen and Kume, 1970).

Water from wells tapping the Emerado Aquifer near Grand Forks AFB is generally of poor quality due to upward leakage of poor quality water from underlying bedrock aquifers. It is sodium sulfate type water with excessive hardness, chloride, sulfate, and total dissolved solids. Water from the Lake Agassiz beach aquifers is usually of good chemical quality in Grand Forks County. The water is a calcium bicarbonate type that is relatively soft. The total dissolved

content ranges from 308 to 1,490 ppm. Most water from beach aquifers is satisfactory for industrial, livestock, and agricultural uses (Hansen and Kume, 1970).

Grand Forks AFB draws 85 to 90 percent of its water for industrial, commercial and housing functions from the City of Grand Forks and 10 to 15 percent from Agassiz Water.

3.5.2 Surface Water

Natural surface water features located on or near Grand Forks AFB are the Turtle River and Kellys Slough National Wildlife Refuge (NWR). Drainage from surface water channels ultimately flows into the Red River.

The Turtle River, crossing the base boundary at the northwest corner, is very sinuous and generally flows in a northeasterly direction. It receives surface water runoff from the western portion of Grand Forks AFB and eventually empties into the Red River of the North that flows north to Lake Winnipeg, Canada. The Red River drainage basin is part of the Hudson Bay drainage system. At Manvel, ND, approximately 10 miles northeast of Grand Forks AFB, the mean discharge of the Turtle River is 50.3 feet cubed per second (ft³/s). Peak flows result from spring runoff in April and minimum flows (or no flow in some years) occur in January and February.

NDDH has designated the Turtle River to be a Class II stream, it may be intermittent, but, when flowing, the quality of the water, after treatment, meets the chemical, physical, and bacteriological requirements of the NDDH for municipal use. The designation also states that it is of sufficient quality to permit use for irrigation, for propagation of life for resident fish species, and for boating, swimming, and other water recreation.

Kelly's Slough NWR occupies a wide, marshy flood plain with a poorly defined stream channel, approximately two miles east and downstream of Grand Forks AFB. Kellys Slough NWR receives surface water runoff from the east half of the base and effluent from the base sewage lagoons located east of the base. Surface water flow of the slough is northeasterly into the Turtle River Drainage from surface water channels ultimately flowing into the Red River. Floodplains are limited to an area 250 ft on either side of Turtle River (about 46 acres on base). Appendix C contains a map depicting floodplains. Any development in or modifications to floodplains must be coordinated with the Corps of Engineers and the Federal Emergency Management Agency (FEMA). The North Dakota State Water Commission requires that any structure in the floodplain have its lowest floor above the identified 100-year flood level.

Surface water runoff leaves Grand Forks AFB at four primary locations related to identifiable drainage areas on base. The four sites are identified as northeast, northwest, west, and southeast related to the base proper. These outfalls were approved by the NDDH as stated in the Grand Forks AFB ND Pollutant Discharge Elimination System (NDPDES) Permit NDR02-0314 Stormwater Discharges from Industrial Activity. Of the four outfall locations, the west and northwest sites flow into the Turtle River, the northeast site flows to the north ditch and the southeast outfall flows into the south ditch. The latter two flow to Kellys Slough and then the Turtle River. All drainage from these surface water channels ultimately flows into the Red

River. The Bioenvironmental Engineering Office samples the four outfall locations during months when de-icing activities occur on base.

3.5.3 Waste Water

Grand Forks AFB discharges its domestic and industrial wastewater to four stabilization lagoons located east of the main base. The four separate treatment cells consist of one primary treatment cell, two secondary treatment cells, and one tertiary treatment cell. Wastewater effluent is discharged under ND Permit ND0020621 into Kellys Slough. Wastewater discharge occurs for about one week, sometime between mid-April through October. Industrial wastewater at the base comprises less than ten percent of the total flow to the treatment lagoons.

3.5.4 Water Quality

According to the National Water Quality Inventory Report (USEPA, 1995), ND reports the majority of rivers and streams have good water quality. Natural conditions, such as low flows, can contribute to violations of water quality standards. During low flow periods, the rivers are generally too saline for domestic use. Grand Forks AFB receives water from Grand Forks and Lake Agassiz Water. The city recovers its water from the Red River and the Red Lake River, while the water association provides water from aquifers. The water association recovers water from well systems within glacial drift aquifers (USAF, 1999). The 319th Civil Engineering Squadron tests the water received on base daily for fluorine and chlorine. The 319th Bioenvironmental Flight collects monthly bacteriological samples to be analyzed at the ND State Laboratory.

3.5.5 Wetlands

About 246,900 acres in the county are drained wetland Type I (wet meadow) to Type V (open freshwater). Approximately 59,500 acres of wetland Type I to V are used for wetland habitat. Wetland Types IV and V include areas of inland saline marshes and open saline water. Kellys Slough NWR occupies a wide, marshy flood plain with a poorly defined stream channel, approximately two miles east and downstream of Grand Forks AFB. Kellys Slough NWR is the most important regional wetland area in the Grand Forks vicinity. EO 11990 requires zero loss of wetlands. Earlier surveys indicated Grand Forks AFB had 49 wetlands, covering 23.9 acres of wetlands, including 33 jurisdictional wetlands covering 12.2 acres. A wetland delineation conducted in 2004 indicated that the base had increased to 192 wetlands. There are 192 wetlands containing 301 acres. These include one Riverine wetland totaling 3 acres in Turtle River, one Palustrine Emergent Wetland (PEM)/Lacustrine wetland totaling 47 acres, and 190 Palustrine wetlands totaling 251 acres. Of the Palustrine wetlands, 32 are Scrub-shrub wetlands at 76 acres, 3 are Forested wetlands at approximately <1 acre, and 155 are Emergent wetlands at 174 acres. Fifteen wetlands have been identified as jurisdictional comprising 145 acres on base, and the remainder are non-jurisdictional. Vegetation is robust at GFAFB wetlands, and they are characterized as typical prairie potholes found within the northern plains ecoregion.

Wetlands on Grand Forks AFB occur frequently in drainage ways, low-lying depressions, and prairie potholes. Wetlands are highly concentrated in drainage ways leading from the

wastewater treatment lagoons to Kellys Slough NWR. The majority of wetland areas occur in the northern and central portions of base, near the runway, while the remaining areas are near the eastern boundary and southeastern corner of base. Development in or near these areas must include coordination with the ND State Water Commission and the USACE. To help preserve wetlands, the North Dakota, Grand Forks County regional office of the Natural Resource Conservation Service recommends a 100-ft vegetated (grass) buffer with a perimeter filter strip.

3.6 BIOLOGICAL RESOURCES

3.6.1 Vegetation

Plants include a large variety of naturally occurring native plants. Hay land, wildlife management areas, waterfowl production areas, neighboring wildlife refuges, state parks, and conservation reserve program land have created excellent grassland and wetland habitats for wildlife in Grand Forks County. Pastures, meadows, and other non-cultivated areas create a prairie-land mosaic of grasses, legumes, and wild herbaceous plants. Included in the grasses and legumes vegetation species are tall wheat grass, brome grass, Kentucky bluegrass, sweet clover, and alfalfa. Herbaceous plants include little bluestem, goldenrod, green needle grass, western wheat grass, and bluegrama. Shrubs such as Juneberry, dogwood, hawthorn, buffaloberry, and snowberry also are found in the area. In wetland areas, predominant species include *Typha* sp., smartweed, wild millet, cord grass, bulrushes, sedges, and reeds. These habitats for upland wildlife and wetland wildlife attract a variety of species to the area and support many aquatic species.

Various researchers, most associated with the University of ND, have studied current native floras in the vicinity of the base. The Natural Heritage Inventory through field investigations has identified ten natural communities occurring in Grand Forks County (1994). Of these, two communities are found within base boundaries, River/Creek and Lowland Woodland. The River/Creek natural community refers to the Turtle River. This area is characterized by submergent and emergent aquatic plants, green algae, diatoms, diverse invertebrate animals such as sponges, flatworms, nematode worms, segmented worms, snails, clams, and immature and adult insects, fish, amphibians, turtles, and aquatic birds and mammals. Dominant trees in the Lowland Community include elm, cottonwood, and green ash. Dutch elm disease has killed many of the elms. European buckthorn (a highly invasive exotic species), chokecherry, and wood rose (*Rosa woodsii*) are common in the under story in this area. Wood nettle (*Laportea canadensis*), stinging nettle (*Urtica dioica*), beggars' ticks (*Bidens frondosa*), and waterleaf (*Hydrophyllum virginianum*) are typical forbes.

A prairie restoration project in the "Prairie View Nature Preserve" has been developed to restore a part of the native tallgrass prairie that once was dominant in this region. Plants thriving in this preserve include western wheatgrass, slender wheatgrass, big bluestem, little bluestem, Indian grass, switchgrass, blue gramma, buffalo grass, and many native wildflower species. The Grand Forks AFB Natural Resources Manager and volunteers installed a butterfly garden in the Prairie View Nature Preserve in the fall of 2005, on National Public Lands Day. Volunteers helped plant the 1,300 square foot garden with about 50 different perennial varieties and shrubs.

Two hundred and fifty five taxa were identified in the ND Natural Heritage Inventory and the BS Bioserve biological inventory update for Grand Forks Air Force Base. Two rare orchid species are known to exist on Grand Forks AFB, the Large and Small Yellow Lady's Slipper, identified during the 2004 inventory.

3.6.2 Wildlife

Grand Forks County is agrarian in nature, however it does have many wildlife management areas, waterfowl production areas, conservation reserve program land, and recreational areas providing excellent habitat for local wildlife within the county. Kellys Slough NWR is located a couple miles northeast of Grand Forks AFB. In addition to being a wetland, it is a stopover point for thousands of migratory birds, especially shorebirds. The Prairie Chicken Wildlife Management Area is located north of Mekinock and contains 1,160 acres of habitat for deer, sharp-tailed grouse, and game birds. Wildlife can also be found at the Turtle River State Park, The Bremer Nature Trail, and the Myra Arboretum.

The base supports a remarkable diversity of wildlife given its size and location within an agricultural matrix. The Turtle River riparian corridor, Prairie View Nature Preserve, grassland areas on the west side of the base, and the lagoons to the east of the base all provide important habitat for native plant and wildlife species and should be conserved as such within mission constraints. Many mammalian species are found on base such as the white tail deer, eastern cottontail, coyotes, beaver, raccoons, striped skunks, badgers, voles, gophers, shrews, mice, muskrat, squirrels, bats, and occasional moose and bear.

One hundred seventy bird species were identified in the 2004 biological survey, many of which include grassland bird species. Grassland bird populations are declining across North America due to huge losses of prime grassland habitat from conversion to agricultural, urban, and industrial development. No other avian group has experienced such dramatic losses as grassland birds. GFAFB is fortunate to support a large variety of grassland birds, many of which are listed on the Partners-in-Flight species of concern list, such as the grasshopper sparrow. Large blocks of grassland should be conserved to protect these grassland bird species if the mission constraints allow it.

3.6.3 Threatened and Endangered Species

According to the Biological Survey Update 2004 of GFAFB, 21 state-listed birds and 1 federally listed bird species, 2 state-listed plant species, 1 state-listed mammal species, and 1 state-listed amphibian have been identified at GFAFB. The base does have infrequent use by migratory threatened and endangered species, such as the bald eagle, but there are no critical or significant habitats for those species present. Several rare and state-listed species have been observed on base near Turtle River, the lagoons, and the grassland to the west of the airfield. The ESA does require that Federal Agencies not jeopardize the existence of a threatened or endangered species nor destroy or adversely modify designated critical habitat for threatened or endangered species.

3.7 SOCIOECONOMIC RESOURCES

Grand Forks County is primarily an agricultural region and, as part of the Red River Valley, is one of the worlds most fertile. Cash crops include sugar beets, beans, corn, barley, and oats. The valley ranks first in the nation in the production of potatoes, spring wheat, sunflowers, and durum wheat. Grand Forks County's population in 2000 was 66,109, a decrease of 6.5 percent from the 1990 population of 70,638 (ND State Data Center, No Date). Grand Forks County's annual mean wage in Oct 2001 was \$26,715 (Job Service of ND, 2001). Grand Forks AFB is one of the largest employers in Grand Forks County. The total base population, as of May 2005, is approximately 7,175. Of that, 2,842 are military, 3,953 are military dependents, and 380 civilians working on base (Grand Forks AFB, 2005). The total annual economic impact for Grand Forks AFB is \$353,592,679.

3.8 CULTURAL RESOURCES

According to the Grand Forks AFB Cultural Resources Management Plan, there are no archeological sites that are potentially eligible for the National Register of Historic Places (NRHP). A total of six archeological sites and six archeological find spots have been identified on the base. They are abandoned farmsteads and isolated artifacts. None meet the criteria of eligibility of the NRHP established in 36 CFR 60.4. There is no evidence for Native American burial grounds, or other culturally sensitive areas. Paleosols (soil that developed on a past landscape) remain a management concern requiring Section 106 compliance. Reconnaissance-level archival and archeological surveys of Grand Forks AFB conducted by the University of ND in 1989 indicated that there are no facilities (50 years or older) that possess historical significance. A map of the cultural resource probability areas is located in Appendix B. The base is currently consulting with the ND Historical Society on the future use of eight Cold War Era facilities. These are buildings 313, 606, 703, 704, 705, 706, 707, and 714.

3.9 LAND USE

Land use in Grand Forks County consists primarily of cultivated crops with remaining land used for pasture and hay, urban development, recreation, and wildlife habitat. Principal crops are spring wheat, barley, sunflowers, potatoes, and sugar beets. Turtle River State Park, developed as a recreation area in Grand Forks County, is located about five miles west of the base. Several watershed protection dams are being developed for recreation activities including picnicking, swimming, and ball fields. Wildlife habitat is very limited in the county. Kellys Slough NWR (located about two miles east of the base) and the adjacent National Waterfowl Production Area are managed for wetland wildlife and migratory waterfowl, but they also include a significant acreage of open land wildlife habitat.

The main base encompasses 5,420 acres, of which the USAF owns 4,830 acres and another 590 acres are lands containing easements, permits, and licenses. Improved grounds, consisting of all covered area (under buildings and sidewalks), land surrounding base buildings, the 9-hole golf course, recreational ball fields, and the family housing area, encompass 1,120 acres. Semi-improved grounds, including the airfield, fence lines and ditch banks, skeet range, and riding stables account for 1,390 acres. The remaining 2,910 acres of the installation consist of unimproved grounds. These areas are comprised of woodlands, open space, and wetlands, including four lagoons (180.4 acres) used for the treatment of base wastewater. Agricultural out

leased land (1,040 acres) is also classified as unimproved. Land use at the base is solely urban in nature, with residential development to the south, and cropland, hayfields, and pastures to the north, west, and east of the base.

3.10 TRANSPORTATION SYSTEMS

Seven thousand vehicles per day travel ND County Road B3 from Grand Forks AFB's east gate to the US Highway 2 Interchange (Clayton, 2001). Two thousand vehicles per day use the off-ramp from US Highway 2 onto ND County Road B3 (Dunn, 2001). US Highway 2, east of the base interchange, handles 10,800 vehicles per day. (Kingsley and Kuntz, 2001). A four lane arterial road has a capacity of 6,000 vehicles per hour and a two lane, 3,000, based on the average capacity of 1,500 vehicles per hour per lane. Roadways adjacent to Grand Forks AFB are quite capable of accommodating existing traffic flows (USAF, 2001a).

Grand Forks AFB has good traffic flow even during peak hours (6-8 am and 4-6 pm). There are two gates: the main gate located off of County Road B3, about one mile north of U.S. Highway 2 and the Secondary Gate located off of U.S. Highway 2, about 3/4 mile west of County Road B3. The main gate is connected to Steen Boulevard (Blvd), which is the main east-west road, and serves the passenger traffic; and the south gate is connected to Eielson Street (St), which is the main north-south road and serves the truck traffic.

3.11 AIRSPACE/AIRFIELD OPERATIONS

3.11.1 AIRCRAFT SAFETY

Bird Aircraft Strike Hazard (BASH) is a major safety concern for military aircraft. Collision with birds may result in aircraft damage and aircrew injury, which may result in high repair costs or loss of the aircraft. A BASH hazard exists at Grand Forks AFB and its vicinity, due to resident and migratory birds. Daily and seasonal bird movements create various hazardous conditions. Although BASH problems are minimal, Kellys Slough NWR is a major stopover for migratory birds. Canadian Geese and other large waterfowl have been seen in the area (USAF, 2001b).

3.11.2 AIRSPACE COMPATIBILITY

The primary objective of airspace management is to ensure the best possible use of available airspace to meet user needs and to segregate requirements that are incompatible with existing airspace or land uses. The Federal Aviation Administration has overall responsibility for managing the nation's airspace and constantly reviews civil and military airspace needs to ensure all interests are compatibly served to the greatest extent possible. Airspace is regulated and managed through use of flight rules, designated aeronautical maps, and air traffic control procedures and separation criteria.

3.12 SAFETY AND OCCUPATIONAL HEALTH

Safety and occupational health issues include one-time and long-term exposure. Examples include asbestos/radiation/chemical exposure, explosives safety quantity-distance, and bird/wildlife aircraft hazard. Safety issues include injuries or deaths resulting from a one-time accident. Aircraft Safety includes information on birds/wildlife aircraft hazards and the BASH program. Health issues include long-term exposure to chemicals such as asbestos and lead-based paint. Safety and occupational health concerns could impact personnel working on the project and in the surrounding area.

The National Emission Standards for Hazardous Air Pollutants (NESHAP) of the CAA designates asbestos as HAP. OSHA provides worker protection for employees who work around or asbestos containing material (ACM). Regulated ACM (RACM) includes thermal system insulation (TSI), any surfacing material, and any friable asbestos material. Non-regulated Category I non-friable ACM includes floor tile and joint compound.

Lead exposure can result from paint chips or dust or inhalation of lead vapors from torch-cutting operations. This exposure can affect the human nervous system. Due to the size of children, exposure to lead based paint is especially dangerous to small children. OSHA considers all painted surfaces in which lead is detectable to have a potential for occupational health exposure.

3.13 ENVIRONMENTAL MANAGEMENT

3.13.1 ENVIRONMENTAL RESTORATION PROGRAM

The Environmental Restoration Program (ERP) is the AF's environmental restoration program based on the CERCLA. CERCLA provides for Federal agencies with the authority to inventory, investigate, and clean up uncontrolled or abandoned hazardous waste sites. There are seven ERP sites at Grand Forks AFB. These sites are identified as potentially impacted by past hazardous material or hazardous waste activities. They are the Fire Training Area/Old Sanitary Landfill Area, FT-02; New Sanitary Landfill Area, LF-03; Strategic Air Ground Equipment (SAGE) Building 306, ST-04; Explosive Ordnance Detonation Area, OT-05; Refueling Ramps and Pads, Base Tanks Area, ST-06; POL Off-Loading Area, ST-07; and Refueling Ramps and Pads, ST-08 (USAF, 1997b). Two sites, OT-05 and ST-06, are considered closed. ST-08 has had a remedial investigation/feasibility study (RI/FS) completed, and the rest are in long-term monitoring. Grand Forks AFB is not on the National Priorities List (NPL)

3.13.2 GEOLOGICAL RESOURCES

3.13.2.1 Physiography and Topography

The topography of Grand Forks County ranges from broad, flat plains to gently rolling hills that were produced mainly by glacial activity. Local relief rarely exceeds 100 ft in one mile, and, in parts of the lake basin, less than five ft in one mile.

Grand Forks AFB is located within the Central Lowlands physiographic province. The topography of Grand Forks County, and the entire Red River Valley, is largely a result of the former existence of Glacial Lake Agassiz, which existed in this area during the melting of the

last glacier, about 12,000 years ago (Stoner et al., 1993). The eastern four-fifths of Grand Forks County, including the base, lies in the Agassiz Lake Plain District, which extends westward to the Pembina escarpment in the western portion of the county. The escarpment separates the Agassiz Lake Plain District from the Drift Plain District to the west. Glacial Lake Agassiz occupied the valley in a series of recessive lake stages, most of which were sufficient duration to produce shoreline features inland from the edge of the lake. Prominent physiographic features of the Agassiz Lake Plain District are remnant lake plains, beaches, inter-beach areas, and delta plains. Strandline deposits, associated with fluctuating lake levels, are also present and are indicated by narrow ridges of sand and gravel that typically trend northwest-southwest in Grand Forks County.

Grand Forks AFB lies on a large lake plain in the eastern portion of Grand Forks County. The lake plain is characterized by somewhat poorly drained flats and swells, separated by poorly drained shallow swells and sloughs (Doolittle et al., 1981). The plain is generally level, with local relief being less than one foot. Land at the base is relatively flat; with elevations ranging from 880 to 920 ft mean sea level (MSL) and averaging about 890 ft MSL. The land slopes to the north at less than 12 ft per mile.

3.13.2.2 Soil Type Condition

Soils consist of the Gilby loam series that are characterized by deep, somewhat poorly drained, moderately to slowly permeable soils in areas between beach ridges. The loam can be found from 0 to 12 inches. From 12 to 26 inches, the soil is a mixture of loam, silt loam, and very fine sandy loam. From 26 to 60 inches, the soil is loam and clay loam.

3.13.3 PESTICIDE MANAGEMENT

Pesticides are handled at various facilities including Environmental Controls, Golf Course Maintenance, and Grounds Maintenance. Other organizations assist in the management of pesticides and monitoring or personnel working with pesticides. Primary uses are for weed and mosquito control. Herbicides, such as picloram, nonselective glyphosate and 2, 4-D are used to maintain areas on base. Military Public Health and Bioenvironmental Engineering provide information on the safe handling, storage, and use of pesticides. Military Public Health maintains records on all pesticide applicators. The Fire Department on-base provides emergency response in the event of a spill, fire, or similar type incident.

3.14 ENVIRONMENTAL JUSTICE

Environmental justice addresses the minority and low-income characteristics of the area, in this case Grand Forks County. The county is more than 93 percent Caucasian, 2.3 percent Native American, 1.4 percent African-American, 1 percent Asian/Pacific Islander, less than 1 percent Other, and 1.6 percent "Two or more races". In comparison, the US is 75.2 percent Caucasian, 12.3 African-American, 0.9 percent Native American or Native Alaskan, 3.6 percent Asian, 0.1 Native Hawaiian or Pacific Islander, 5.5 percent Other, and 2.4 percent "Two or more races". Approximately 12.5 percent of the county's population is below the poverty level in comparison to 13.3 percent of the state (US Bureau of the Census, 2002). There are few residences and no

concentrations of low-income or minority populations around Grand Forks AFB.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

The effects of the proposed action and the alternatives on the affected environment are discussed in this section. The project involves demolition of Buildings 531 on Grand Forks AFB.

4.2 AIR QUALITY

4.2.1 Alternative 1 (No Action)

The no action alternative would not impact air quality.

4.2.2 Alternatives 2 (Proposed Action)

No long-term effects; however short term effects involve heavy construction equipment emissions (not a concern as they are mobile sources) and fugitive dust (mentioned on our Title V permit). Air Quality is considered good and the area is in attainment for all criteria pollutants. Fugitive emissions from construction activities are expected to be below the regulatory threshold and would be managed in accordance with NDAC 33-15-17-03. Best management practices (BMPs) to reduce fugitive emissions would be implemented to reduce the amount of these emissions.

Purchase of any new generators/boilers requires permit to construct and is subject to air compliance under the Title V permit (Chapter 33-15-14, N.D.A.C). Permit process must be coordinated through 319 CES/CEVC and the ND Health Department. This is a modification to the existing permit. Modifications without approval are violations of the operating agreement. Before purchase is made, coordination must be finished.

All new generators are subject to 40 CFR Part 60, Subpart IIII regarding new limits on equipment emissions and must obtain certification. Any generator purchases must meet these new standards.

Retirement of existing generators needs to be coordinated w/the Air Quality program to ensure the existing Title V permit is updated, and/or the insignificant inventory is updated as a requirement of the permit.

4.2.3 Alternative 3

Impacts would be similar to those in proposed action.

4.3 NOISE

4.3.1 Alternative 1 (No Action)

The no action alternative would not impact noise generation.

4.3.2 Alternative 2 (Proposed Action)

The short-term operation of heavy equipment in the construction and demolition areas would generate additional noise. These noise impacts would exist only during construction and demolition and would cease after completion. The increase in noise from construction and demolition activities would not be significant.

4.3.3 Alternative 3

Impacts would be similar to those in proposed action.

4.4 WASTES, HAZARDOUS MATERIALS, AND STORED FUELS

4.4.1 Alternative 1 (No Action)

The no action alternative would not impact hazardous or solid waste generation.

4.4.2 Alternative 2 (Proposed Action)

The increase in hazardous and solid wastes from demolition of 531 would be temporary. An estimated 653,000 pounds of solid waste debris would be disposed of in approved location, such as the Grand Forks Municipal Landfill, which is located within 12 miles of the proposed site. Building 531 was constructed in 1957. The facility has metal beams, fiberglass insulation, and cement floors. There is ceiling tile, floor tile, and sheetrock in the buildings. All measures would be taken to minimize the disturbance of any asbestos-containing material (ACM) and prevent any asbestos fiber release episodes in all areas. Removal of any friable asbestos-containing material would be accomplished in accordance with section 33-15-13-02 of the North Dakota air pollution control rules. All solid waste materials would be managed and transported in accordance with the state's solid and hazardous waste rules. Appropriate efforts to reduce, reuse and/or recycle waste materials are encouraged by the State of North Dakota. Inert waste should be segregated from non-inert waste, where possible, to reduce the cost of waste management. A State Demolition/Asbestos notification form must be provided to the State of North Dakota ten days prior to demolition. Petroleum contaminated soils generated from demolition of 531 can be treated at the land treatment facility located on the southwest side of the airfield.

Since Building 531 was constructed in 1957, it is assumed there would be interior or exterior subsurfaces coated with lead-base paint. The removal of lead-based paint must be properly handled to reduce or prevent exposing workers and building occupants to lead. The materials must be handled by properly trained individuals for removal and disposal.

There is a 2,000 gallon above ground storage tank (AST) of diesel fuel on the west side of facility 531, for the purpose of fuel for the backup generator. The tank and fuel must be handled by properly trained individuals for removal and disposal.

4.4.3 Alternative 3

Impacts would be similar to those in proposed action.

4.5 WATER RESOURCES

4.5.1 Alternative 1 (No Action Alternative)

The no action alternative would have no impact on groundwater, surface water, wastewater, water quality, or wetlands.

4.5.2 Alternative 2 (Proposed Alternative)

Groundwater: Excavation would likely intercept the water table. If the excavated area fills with groundwater, water could be directly exposed to contaminants released from construction equipment. Provided best management practices are followed, there will be minimal impacts on ground water.

Surface Water: Surface water quality could be degraded in the short-term, during actual construction, and in the long term. Effects come from possible erosion contributing to turbidity of runoff and possible contamination from spills or leaks from construction equipment. Surface water could also be impacted if, due to storm water inflow to the excavation, the contractor would need to pump out the excavation. The contractor must utilize effective methods to control surface water runoff and minimize erosion. The long term effects come from the fact that additional impervious area is being added to a site where the drainage is already taxed and no additional consideration will be given to drainage during this project. This could lead to overflowing ditches, increase in wetland area, and additional contaminants introduced to the water due to the increased flows. Proper stabilization and seeding the site immediately upon completion of the construction would provide beneficial vegetation, controlling erosion. Provided best management practices are utilized during construction, short term negative surface water impacts should be minimal. Long term negative impacts may occur with a small overall decrease in water quality.

Wastewater: The proposed action would have no impact on wastewater.

Water Quality: Provided containment needs are met and best management practices are used, the proposed action would have minimal impact to water quality.

Wetlands: There are no wetlands in the vicinity of the proposed work area. Activity in any wetlands cannot occur without a Clean Water Act section 404 permit from the Army Corps of Engineers. No dumping, filling, dredging, or changing of the wetland hydrologic structure is permitted without a permit.

4.5.3 Alternative 3

Impacts would be similar to those in proposed action.

4.6 BIOLOGICAL RESOURCES

4.6.1 Alternative 1 (No Action)

The no action alternative would not impact wildlife, vegetation, or other biological resources.

4.6.2 Alternative 2 (Proposed Action)

Vegetation: BMPs and control measures, including silt fences and covering of stockpiles, would be implemented to ensure that impacts to biological resources be kept to a minimum. The amount of vegetation disturbed would be kept to the minimum required to complete the action. Disturbed areas should be re-established as soon as possible. There would be a short-term minimal loss of vegetation from construction and demolition activities.

Noxious Weeds: Public law 93-629 mandates control of noxious weeds. Limit possible weed seed transport from infested areas to non-infested sites. Avoid activities in or adjacent to heavily infested areas or remove seed sources and propagules from site prior to conducting activities, or limit operations to non-seed producing seasons. Wash or otherwise remove all vegetation and soil from equipment before transporting to a new site. Following activities which expose the soil, mitigate by covering the area with weed seed free mulch and/or seed the area with native species. Covering the soil will reduce the germination of weed seeds, maintain soil moisture, and minimize erosion. If any fill material is used, it should be from a weed-free source.

Wildlife: Construction and demolition would have minimal impacts to wildlife. The proposed work area is in an improved area where grounds are maintained by the grounds maintenance contractor. Due to the abundance and mobility of these species present at this location, and the profusion of similar landscaped areas in the general vicinity, any wildlife disturbed would be able to find similar habitat in the local areas. Cumulative affects should not be considerable as the area is commonly disturbed by noisy aircraft passing and occasional truck traffic for maintenance procedures.

Threatened or Endangered Species: The most recent compilation of all bird data collected on GFAFB identifies 1 federally and state threatened bird species (bald eagle) with 7 more state endangered and threatened bird species. In addition, 32 bird species are listed as state species of concern, 18 are identified as birds of conservation concern according to the USFWS report of 2002, 35 are DoD Partners In Flight conservation priorities, and 29 birds have been identified on GFAFB that are listed in the ND Game and Fish Departments top 100 species for conservation. Furthermore, the 2004, "Biological Survey Update", identified 2 state threatened plant species, 1 mammal species and 1 amphibian as species of conservation concern. The federally listed bird species (the Bald Eagle) has no critical habitat at GFAFB. Proposed activities should have minimal impact on these sensitive species as the work area is in an improved area.

4.6.3 Alternative 3

Impacts would be similar to those in proposed action.

4.7 SOCIOECONOMIC RESOURCES

4.7.1 Alternative 1 (No Action)

The no action alternative would not impact socioeconomics.

4.7.2 Alternative 2 (Proposed Action)

Secondary retail purchases would make an additional contribution to the local communities. The implementation of the proposed action, therefore, would provide a short-term, minimal beneficial impact to local retailers during the construction and demolition phases of the project. There would be no long term impact to socioeconomic resources.

4.7.3 Alternative 3

Impacts would be similar to those in proposed action.

4.8 CULTURAL RESOURCES

4.8.1 Alternative 1 (No Action)

The no action alternative would not impact cultural resources.

4.8.2 Alternative 2 (Proposed Action)

Building 531 was built in 1957 and has reached the 50 year mark where buildings are sometimes evaluated as significant historical resources using the Secretary of the Department of the Interior standards. This building has not been evaluated at this time, but is not expected to be of any historical significant value. The proposed action must get approval from the SHPO in a concurrence of “no historic properties affected” prior to demolition of the structure. The proposed action has little potential to impact archaeological resources. In the unlikely event any such artifacts were discovered during the construction activities, the contractor would be instructed to halt construction and immediately notify Grand Forks AFB civil engineers who would notify the State Historic Preservation Officer.

4.8.3 Alternative 3

Impacts would be similar to those in proposed action.

4.9 LAND USE

4.9.1 Alternative 1 (No Action)

The no action alternative would not have an impact on land use.

4.9.2 Alternative 2 (Proposed Action)

The proposed operation would not have an impact on this land use currently designated for airfield use.

4.9.3 Alternative 3

Impacts would be similar to those in proposed action.

4.10 TRANSPORTATION SYSTEMS

4.10.1 Alternative 1 (No Action)

The action would not impact transportation.

4.10.2 Alternative 2 (Proposed Action)

The proposed action would have minimal adverse impact to transportation systems on base due to vehicles traveling to and from the new facility during construction and building 531 during demolition.

4.10.3 Alternative 3

Impacts would be similar to those in proposed action.

4.11 AIRSPACE/AIRFIELD OPERATIONS

4.11.1 Alternative 1 (No Action)

The no action alternative would not impact aircraft safety or airspace compatibility.

4.11.2 Alternative 2 (Proposed Action)

The proposed action would have a positive impact on aircraft safety and airspace compatibility with the replacement of the airfield lighting vault. A negative impact would be a blocked view or vision of the airfield from the southern windows of Building 541.

4.11.3 Alternative 3

Impacts would be similar to those in proposed action.

4.12 SAFETY AND OCCUPATIONAL HEALTH

4.12.1 Alternative 1 (No Action)

The no action alternative would not impact safety and occupational health.

4.12.2 Alternative 2 (Proposed Action)

Provided best management practices (BMP) are followed, the proposed action would have no significant impact on safety and occupational health. Participants are required to wear appropriate personnel protective equipment (PPE) during construction and demolition.

4.12.3 Alternative 3

Impacts would be similar to those in proposed action.

4.13 ENVIRONMENTAL MANAGEMENT

4.13.1 Alternative 1 (No Action)

The no action alternative would not impact ERP Sites or geological resources.

4.13.2 Alternative 2 (Proposed Action)

ERP: Provided best management practices (BMP) are followed, the proposed action would not impact ERP Sites. Any excavation in this area needs to be reviewed by Bioenvironmental Engineering for worker protection. A State Demolition/Asbestos notification form must be provided to the State of North Dakota Department of Health ten days prior to demolition on the site.

Geology: The proposed action would not impact geological resources. Soils present in the proposed area include the Gilby series.

Pesticides: No pesticides would be used during the demolition of building 531 and construction of a new facility. Pesticides to control Richardson ground squirrels, mosquitoes, and other pests will continue as needed for maintenance.

4.13.3 Alternative 3

Impacts would be similar to those in proposed action.

4.14 ENVIRONMENTAL JUSTICE

4.14.1 Alternative 1 (No Action)

The no action alternative would not impact environmental justice.

4.14.2 Alternative 2 (Proposed Action)

EO 12898 requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. There are no minority or low-income populations in the area of the proposed action or alternatives, and, thus, there would be no disproportionately high or adverse impact on such populations.

4.14.3 Alternative 3

Impacts would be similar to those in proposed action.

4.15 INDIRECT AND CUMULATIVE IMPACTS

The short-term increases in air emissions and noise during construction and demolition and the impacts predicted for other resource areas, would not be significant when considered cumulatively with other ongoing and planned activities at Grand Forks AFB and nearby off-base areas. The cumulative impact of the Proposed Action or Alternative with other ongoing activities in the area would produce an increase in solid waste generation; however, the increase would be limited to the timeframe of each project. The area landfills used for demolition and construction debris do not have capacity concerns, and could readily handle the solid waste generated by the various projects.

4.16 UNAVOIDABLE ADVERSE IMPACTS

The proposed action and alternatives would involve the use of demolition and construction related vehicles, and their short-term impacts on noise, air quality, and traffic are unavoidable.

4.17 RELATIONSHIP BETWEEN SHORT-TERM USES AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The proposed action and alternatives would involve the use of previously developed areas. No croplands, pastureland, wooded areas, or wetlands would be modified or affected as a result of implementing the Proposed Action and, consequently, productivity of the area would not be degraded.

4.18 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Under the proposed action, fuels, manpower, economic resources, and other recovery materials related to the demolition of buildings 531 and construction of a new facility would be irreversibly lost.

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State Historic Preservation Officer
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Mr. Larry Knudtson, Planning
North Dakota State Water Commission
900 E Boulevard Ave, Dept 770
Bismarck ND 58505-0850

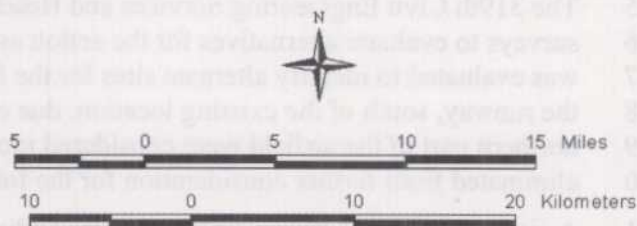
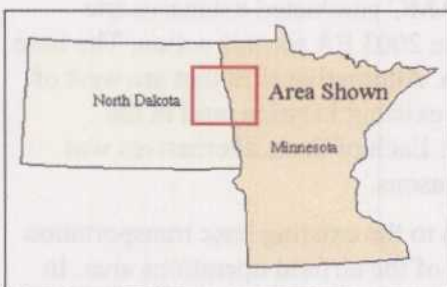
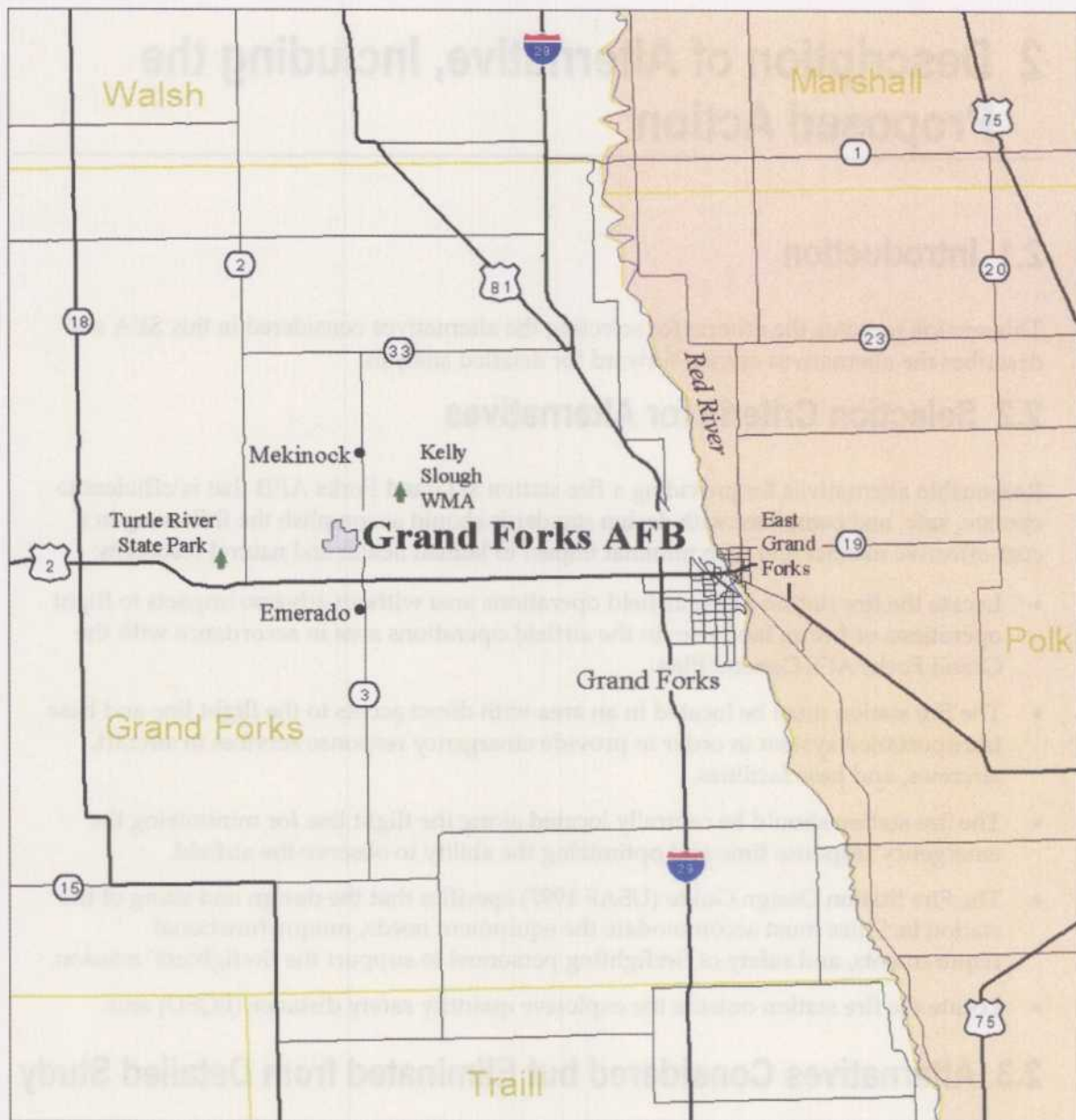
Mr. Jeffrey Towner
U.S. Fish & Wildlife Service
3425 Miriam Avenue
Bismarck ND 58501

7.0 REFERENCES

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APPENDIX A
LOCATION MAP – GRAND FORKS AFB



LOCATION MAP











GRAND FORKS AIR FORCE BASE, ND

APPENDIX B
CULTURAL RESOURCE PROBABILITY MAP

Figure 3.5
Survey Areas and
Probabilities

Grand Forks Air Force Base
Cultural Resources Management Plan

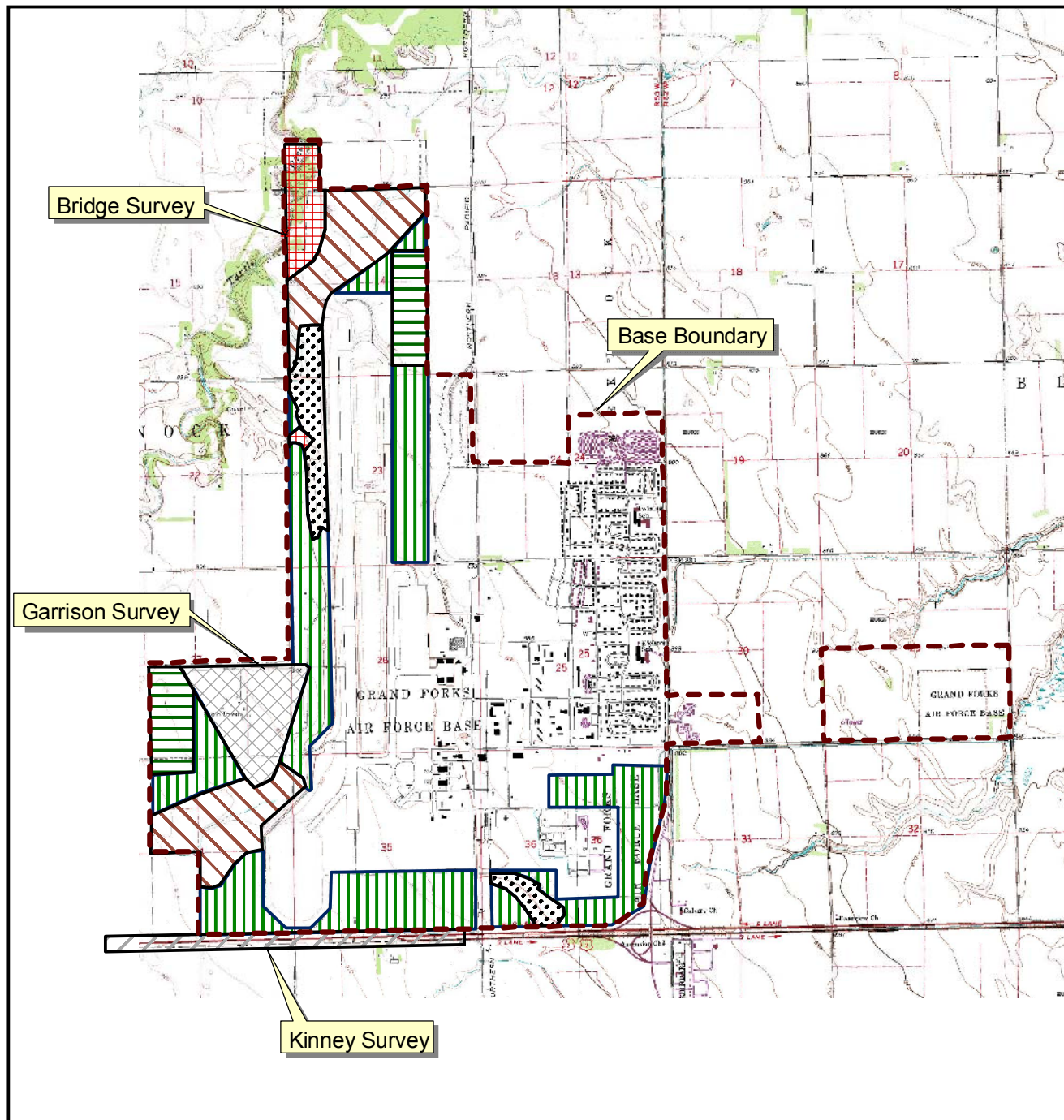
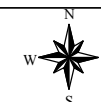
Legend

-  Historic Bridge Inventory Survey
-  Base Boundary
-  High Probability
-  Medium Probability (near water)
-  Kinney Survey
-  Medium Probability (beach ridge)
-  Peace Keeper Rail Garrison Survey
-  Low Probability (distance from water)
-  Low Probability (10% sample)
-  Previously Disturbed

2000 0 2000 4000 Feet

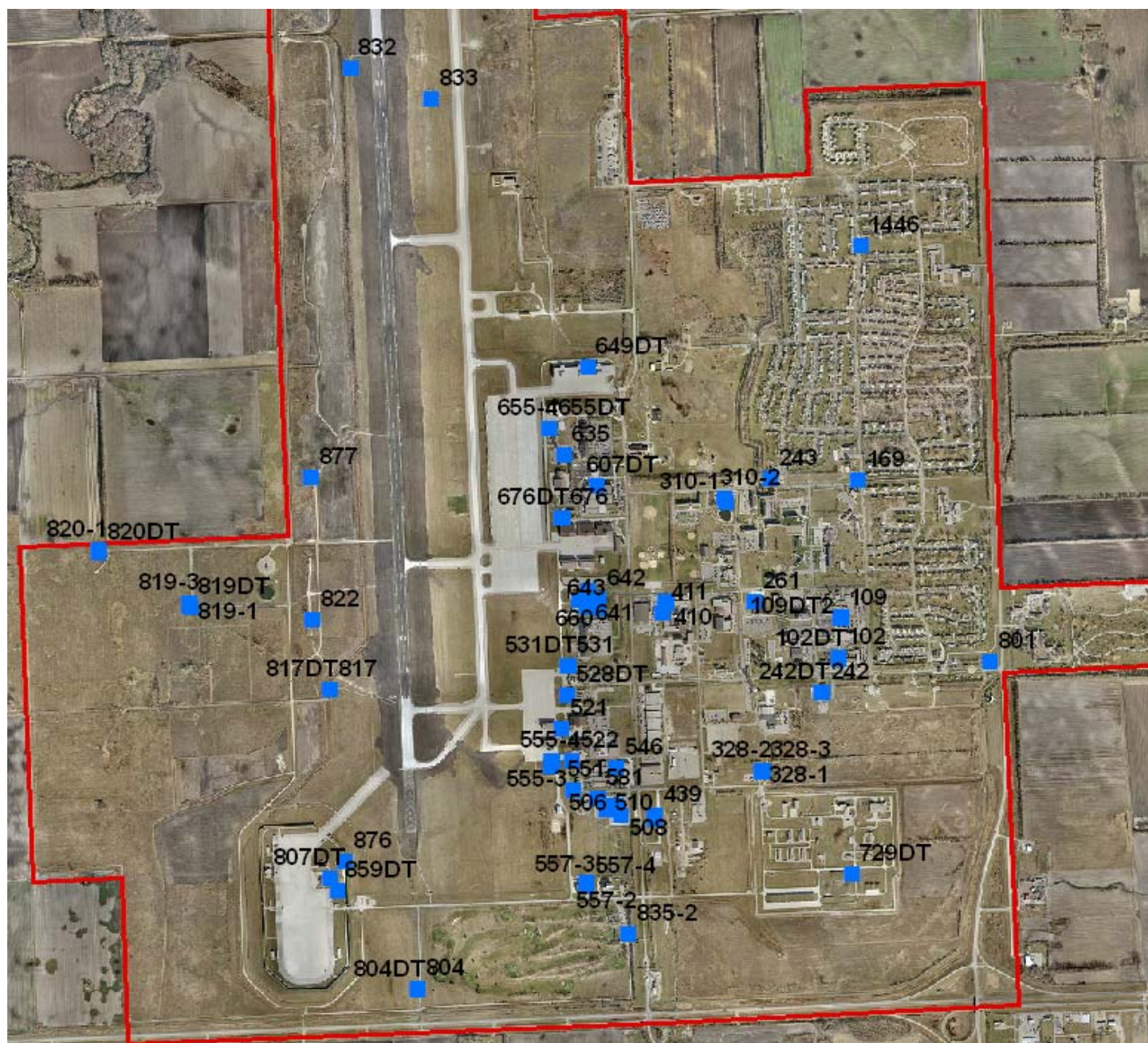


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APPENDIX C
ENVIRONMENTAL SITE MAP

ABOVEGROUND STORAGE TANK LOCATIONS



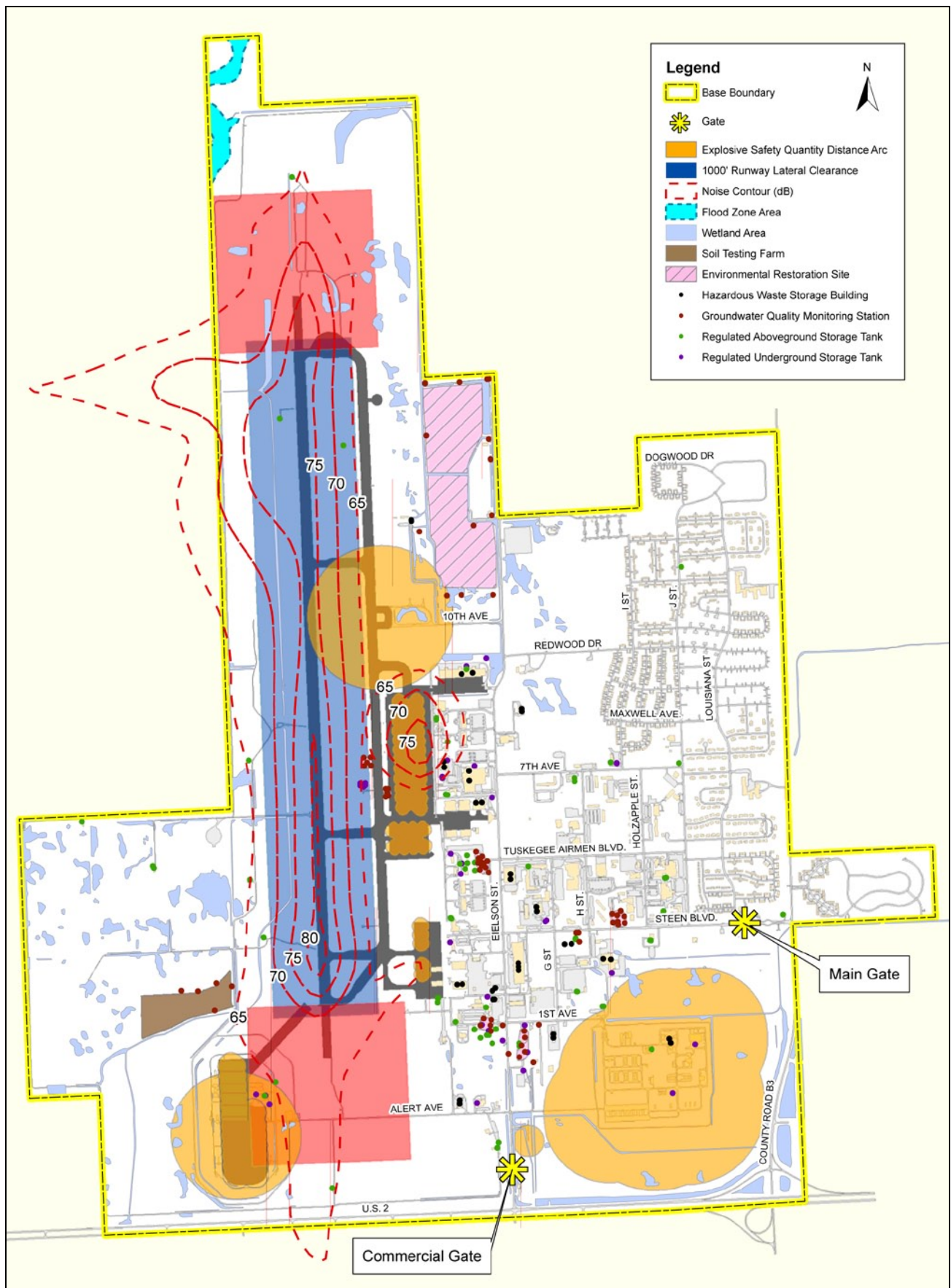
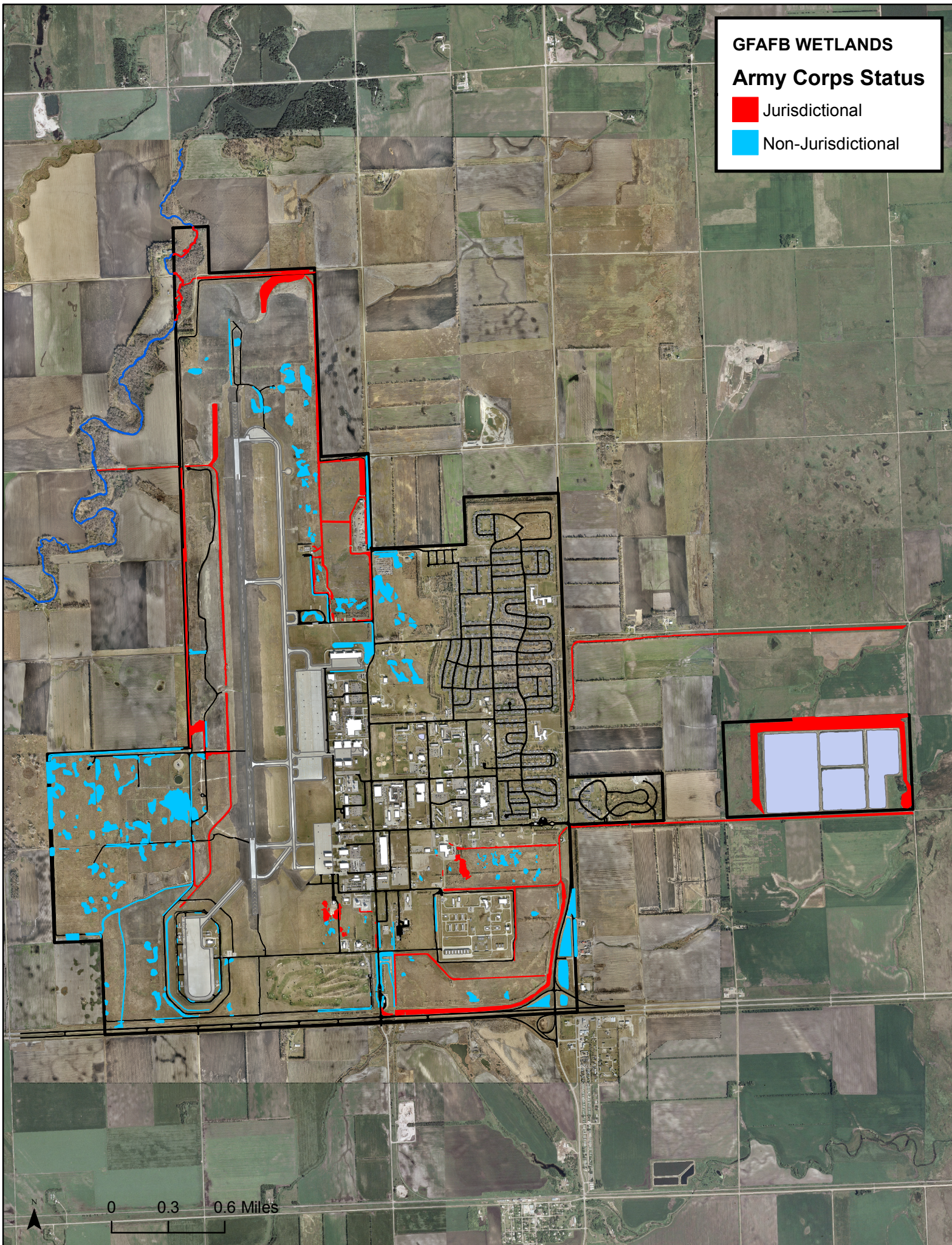


Exhibit 4: Composite Constraints


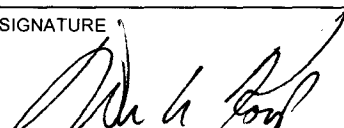
GFAFB WETLANDS
Army Corps Status

- Jurisdictional
- Non-Jurisdictional



0 0.3 0.6 Miles

APPENDIX D
AF FORM 813
REAL PROPERTY RECORD CARDS
DD 1391

REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS			Report Control Symbol RCS: 2005-074	
INSTRUCTIONS: Section I to be completed by Proponent; Sections II and III to be completed by Environmental Planning Function. Continue on separate sheets as necessary. Reference appropriate item number(s).				
SECTION I - PROPONENT INFORMATION				
1. TO (Environmental Planning Function) 319 CES/CEVA	2. FROM (Proponent organization and functional address symbol) 319 CES/CEOFE, Electric, Brian Blake	2a. TELEPHONE NO. 701-747-4761		
3. TITLE OF PROPOSED ACTION Repair Airfield Lighting System (JFSD200613D and JFSD200613)				
4. PURPOSE AND NEED FOR ACTION (Identify decision to be made and need date) A new airfield lighting vault must meet criteria in UFC 3-535-01, para 12.1.8 and 12.1.8.1, with lighting regulators powered by 480 volts. Current facility has inadequate storage for spare parts & equipment or expandability for new circuits & assoc equipment.				
5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES (DOPAA) (Provide sufficient details for evaluation of the total action.) Design for repair of the airfield lighting system by replacing the airfield lighting vault and all supporting facility work as required with new construction. Work order 70551 and project number JFSD200613D assigned. Demolish existing facility 531.				
6. PROPONENT APPROVAL (Name and Grade) MARY C. GILTNER, YF-03, DAF Deputy Base Civil Engineer	6a. SIGNATURE 	6b. DATE 8-15-07		
SECTION II - PRELIMINARY ENVIRONMENTAL SURVEY. (Check appropriate box and describe potential environmental effects including cumulative effects.) (+ = positive effect; 0 = no effect; - = adverse effect; U = unknown effect)				
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE (Noise, accident potential, encroachment, etc.)	<input type="checkbox"/> +	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> -	<input type="checkbox"/> U
8. AIR QUALITY (Emissions, attainment status, state implementation plan, etc.)	<input type="checkbox"/> +	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> -	<input type="checkbox"/> U
9. WATER RESOURCES (Quality, quantity, source, etc.)	<input type="checkbox"/> +	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> -	<input type="checkbox"/> U
10. SAFETY AND OCCUPATIONAL HEALTH (Asbestos/radiation/chemical exposure, explosives safety quantity-distance, bird/wildlife aircraft hazard, etc.)	<input type="checkbox"/> +	<input type="checkbox"/> 0	<input checked="" type="checkbox"/> -	<input type="checkbox"/> U
11. HAZARDOUS MATERIALS/WASTE (Use/storage/generation, solid waste, etc.)	<input type="checkbox"/> +	<input type="checkbox"/> 0	<input checked="" type="checkbox"/> -	<input type="checkbox"/> U
12. BIOLOGICAL RESOURCES (Wetlands/floodplains, threatened or endangered species, etc.)	<input type="checkbox"/> +	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> -	<input type="checkbox"/> U
13. CULTURAL RESOURCES (Native American burial sites, archaeological, historical, etc.)	<input type="checkbox"/> +	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> -	<input type="checkbox"/> U
14. GEOLOGY AND SOILS (Topography, minerals, geothermal, Installation Restoration Program, seismicity, etc.)	<input type="checkbox"/> +	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> -	<input type="checkbox"/> U
15. SOCIOECONOMIC (Employment/population projections, school and local fiscal impacts, etc.)	<input type="checkbox"/> +	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> -	<input type="checkbox"/> U
16. OTHER (Potential impacts not addressed above.)	<input type="checkbox"/> +	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> -	<input type="checkbox"/> U
SECTION III - ENVIRONMENTAL ANALYSIS DETERMINATION				
17. <input type="checkbox"/> PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX) # _____; OR <input checked="" type="checkbox"/> PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED.				
18. REMARKS This action is not "regionally significant" and does not require a conformity determination in accordance with 40 CFR 93.153(1). The total emission of criteria pollutants from the proposed action are below the de minimus thresholds and less than 10 percent of the Air Quality Region's planning inventory.				
19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION (Name and Grade) WAYNE A. KOOP, R.E.M., YF-02 Environmental Management Flight Chief	19a. SIGNATURE 	19b. DATE 14 Aug 07		

- 4.0 Purpose and Need for Action, RCS# 2005-074, Repair Airfield Lighting System (JFSD200613D and JFSD200613)
- 4.1 Purpose of the Action (mission objectives-who proposes to do what, where, when): GFAFB proposes to repair the airfield lighting system by replacing the airfield lighting vault with a new vault in an adjacent location. The new vault must meet criteria in Unified Facilities Criteria (UFC) 3-535-01, para 12.1.8 and 12.1.8.1. In order to meet AMC standard, lighting regulators must be powered by 480 volts, instead of the present 4160 volt power. Adequate space must be provided for repair and work bench areas and storage of an adequate supply of airfield lighting replacement parts to ensure safe continuous airfield operations in all seasonal weather conditions, including tornadoes. Total facility size should be approximately equal to or less than the total square footage of the existing facility (3,250 SF), while providing adequate space for all electrical components, circuitry, and safety clearances. The existing vault must remain in operation during the entire construction period of the new vault. Demolish facility 531 when new vault is in operation and no longer needed.
- 4.2 Need for the Action (why this action is desired or required-why here, why now): The existing airfield lighting vault was constructed in 1957 and cannot feasibly be repaired or altered to meet current UFC and safety criteria. Current circuitry in the vault carries 4160 volt primary power to all regulators. The configuration and space in the building does not provide adequate storage for spare parts and equipment or expandability for new circuits and associated equipment. The basement has severe moisture and drainage problems that persist in spite of previous attempts to solve them. Approach lights are not switchable to a Simplified Approach Lighting System with Runway Alignment Indicator Lights (SSALR). Above ground electrical junction boxes are within area of frangibility (within 250 ft of runway centerline).
- 4.3 Objectives for the Action (what goal do you wish to accomplish): Provide a valid airfield lighting system.
- 4.4 Related EISs/EAs and other documents (similar projects in the past): RCS# 00-022 Repair Airfield Lighting Vault Drain, and 99-156 Install Runway Lighting Control.
- 4.5 Decision that must be made: Replace the airfield lighting vault.
- 4.6 Applicable Regulatory Requirements and Required Coordination-- required permits, licenses, entitlements: Contractor must submit a Work Clearance Request (dig permit), Stormwater Protection Plan, Dust Control Plan, Spill Control Plan, Erosion and Sediment Control Plan to the CEV Water Program Manager and Contracting Officer.
- 5.0 Description of Proposed Action and Alternatives
- 5.1 Description of the proposed action (in brief, introduction): Replace the airfield lighting vault.
- 5.2 Selection criteria for Alternatives
- 5.2.1 Minimum mission requirements: effectiveness, timeliness, cost effective, legality, safety, efficiency, force protection.
- 5.2.2 Minimum environmental standards : noise, air, water, safety, HW, vegetation, cultural, geology, soils, socioeconomic.
- 5.3 Alternatives Considered but Eliminated from Detailed Study: Renovate the existing light vault building 531.
- 5.4 Description of proposed alternatives
- 5.4.1 No-action alternative: If the project is not funded, future airfield operations at Grand Forks AFB will be jeopardized by unreliable airfield lighting circuits as the obsolete vault facility and equipment continue to deteriorate, become increasingly difficult to maintain and obtain replacement parts, and safety issues with the high voltage primary power in the facility continue to present life safety hazards to Air Force electricians.
- 5.4.2 Proposed Action: Grand Forks AFB proposes to repair the airfield lighting system by replacing the airfield lighting vault with a new vault in an adjacent location using a north-south alignment. The new vault must meet criteria in UFC 3-535-01, para 12.1.8 and 12.1.8.1. Lighting regulators must be powered by 480 volts, instead of the present 4160 volt power. Adequate space must be provided for repair and work bench areas and storage of an adequate supply of airfield lighting replacement parts to ensure safe continuous airfield operations in all seasonal weather conditions. Total facility size should be approximately equal to or less than the total square footage of the existing facility, while providing adequate space for all electrical components, circuitry, and safety clearances. The existing vault must remain in operation during the entire construction period of the new vault. Approach lights and circuits must meet UFC 3-535-01 and UFC 3-535-01-02. Remove or relocate junction boxes in the area of frangibility. Proposed work includes masonry construction, concrete floor slab on grade with footings, standing seam metal roof, overhead door, underground electrical service, access road, parking area, appropriate HVAC with positive air pressure, fire alarm, detection, and suppression system, and all required site improvements. Provide high speed internet connection (LAN line), parts storage, restroom, and workbench area. Include force protection, site improvements, and demolition of existing facility with equipment disposal. Demolish existing facility 531 when new airfield lighting vault is operational.
- 5.4.3 Another Reasonable Action Alternative: Construct a new vault in a east-west alignment.
- 5.5 Description of Past and Reasonably Foreseeable Future Actions Relevant to Cumulative Impacts: There are several other construction and demolition projects occurring on Grand Forks AFB in the same time frame. These projects are addressed under separate NEPA documents.
- 5.6 Recommendation of preferred alternative: Replace the airfield lighting vault with new facility in a north-south alignment.

BUILDING #531

BUILDING DESIGNATION: Utility Vault

INSTALLED PROPERTY

RM #

1 - 1 ea Kato Generator 250KW Complete Eng 1123164, Alt 43165-1, S/N 157544
1 ea Unit Heater

2 - 1 ea Unit Heater
22 ea TaxiWay Regulators

3 - 3 ea 37½ KW Transformer
5 ea Regulators 37½KW Type MC-1
1 ea Regulator 15KW Glide Slope
1 ea Automatic Selector Switch

BASEMENT

1 ea Sump Pump

OUTSIDE

3 ea 100 KVA Transformers
3 ea 275 gal Tanks

Grand Forks AFB INSTALLATION NAME AND NO.			JFSD		27 Jun 57 DATE		AF86-11-05 DRAWING NO.		9968 JFSD RP ACCOUNT NO.		53015 CONTROL NO.		531 BUILDING NO.	
DIMENSIONS (Width x length)										CODE				
MAIN BUILDING		OFFSETS		WINGS		BASEMENTS		STATE						
57'4" x 22'						45'4" x 22'		North Dakota		038				
								ASSIGNMENT						
								SAC		48				
MATERIALS										TYPE OF CONSTRUCTION				
FOUNDATION		FLOOR		WALL		ROOF		Perm		1P				
Reinf Conc		Concrete Slab		Concrete Blocks		Concrete Deck w/5 Fly P&G		CONDITION		Usable				
										1				
HEATING										OCCUPANCY				
SOURCE		TYPE				FUEL				Air Force		1		
Central		HTHW								AIR FORCE INTEREST		Owned		
												1		
NO. OF USABLE FLOORS		FIRE PROTECTION								UNIT OF MEASURE (Other than area)				
2		NO.		TYPE										
				Fire Extinguishers										
UTILITY CONNECTIONS				BLDG EQPT		NO.		TOTAL CAPACITY		QUANTITY				
WATER				AIR CONDITIONING						NOMENCLATURE				
SEWER										Util Vault (R/W Lightning)				
ELECTRIC				EVAPORATIVE COOLING						CATEGORY				
1-103/220										390-187				
GAS				MECHANICAL COOLING						REMARKS				
STEAM										3ea 275 gal tank OH				
CONDENSATE				HOT WATER FACILITIES						JFC 53015				
										17102				

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT		COST		TOTAL COST	
				AMOUNT	TOTAL SF				
10-57	27 Jun 57	Original Building (DA#3924)	1957	2067	2067	36,000	00	36,000	00
24-57	15 Oct 57	HTHW Heating System Controls (DA#3862)	1957			1,653	08	37,653	08
26-60	27 Oct 59	Increase, Final Cost(vou 24-57)	/			225	34	37,878	42
36-61	9 Nov 60	Increase Service to Night Utility Vault				64,050	98	101,929	40
102-61	27 Feb 61	Installed property removed (DA#6070)	19 Sep 60			11,850	00	90,079	40
BALANCES FORWARDED					2067			90,079	40

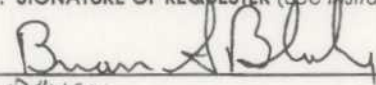
VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT		COST		TOTAL COST	
				AMOUNT	TOTAL				
		BALANCES FORWARDED			2067			90,079	40
171-62	27 Apr 62	Final Cost (Vou # 36-61)				4,622	02	94,701	42
213-62	25 May 62	Corr vou 102-61				11,850	00	106,551	42
195-63	15 Apr 63	Install Battery Charger	3 Jan 63			272	24	106,823	66
249-65	5 Mar 65	Alteration (WO#939-3) Install Visual Glide Slope System	8-16-64			15,650.	00	122,473.	66
60-6	11 Aug 65	Landscaping				1,000.	00	123,473.	66
77-71	19 Mar 71	Ref RPV on #36-61 deduct Gen to sep plant card	Mar 71			-32,600	00	90,873	66
730017	25 Oct 72	Deduct Htg Plt	10-72			-9,000	00	81,873	66
910024	30 Oct 90	Addn to fac		1664	3731				
BALANCES FORWARDED									

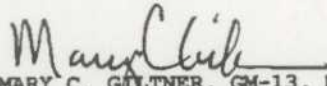
4JB JFSD <small>INSTALLATION NAME AND NO.</small>		30 Oct 90 <small>DATE</small>	<small>DRAWING NO.</small>	531 <small>FACILITY NO.</small>	<small>RP ACCOUNT NO.</small>	<small>CONTROL NO.</small>	AUTO FR DET SYS <small>NOMENCLATURE</small>		
TYPE		CAPACITY			STATE			CODE	
FUEL USED		POWER SOURCE			ASSIGNMENT				
SUPPLY SOURCE		NO. OF PUMPS			CONDITION				
LIFT (Feet)		REFRIGERANT			OCCUPANCY				
NO. OF BOILERS		OPERATING PRESSURE			AIR FORCE INTEREST				
NO. OF RETORTS		PRIME MOVER			UNIT OF AREA MEASURE			EA	
					QUANTITY			1	
					CATEGORY			880-221	
					REMARKS				
CURRENT CHARACTERISTICS									
VOLTS		AMPERE							
PHASE		CYCLE							
VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	UNIT OF MEASURE		COST			
				AMOUNT	TOTAL SF	AMOUNT		TOTAL	
910024	30 Oct 90	new installation			3731				
BALANCES FORWARDED									

Grand Forks AFB JFSD INSTALLATION NAME AND NO.		27 Jun 57 DATE	AF86-11-05 DRAWING NO.	531 FACILITY NO.	JFSD 53015 9968 53010 RP ACCOUNT NO.	Htg Fr Cen PLT NOMENCLATURE			
TYPE		CAPACITY			STATE North Dakota				CODE 38
FUEL USED		POWER SOURCE			ASSIGNMENT SAC				φS
SUPPLY SOURCE		NO. OF PUMPS			CONDITION Useable				1
LIFT (Feet)		REFRIGERANT			OCCUPANCY Air Force				1
NO. OF BOILERS		OPERATING PRESSURE			AIR FORCE INTEREST Owned				1
NO. OF RETORTS		PRIME MOVER			UNIT OF AREA MEASURE				
CURRENT CHARACTERISTICS					QUANTITY				
					CATEGORY				
					REMARKS CAC 53015				
VOLTS		AMPERE							
PHASE		CYCLE							
VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	UNIT OF MEASURE SF		COST			
				AMOUNT	TOTAL	AMOUNT	TOTAL	AMOUNT	TOTAL
730017	25 Oct 72	Original Facility	10-72		2,067	9,000	00	9,000	00
910024	30 Oct 90	addn to fac		11664	3731				
BALANCES FORWARDED									

Grand Forks AFB		JFSD	19 Mar 71	AF86-11-05	531	JFSD 9968	53040 53070	E/ Elec Pwr Gen Plt	
INSTALLATION NAME AND NO.		DATE	DRAWING NO.		FACILITY NO.	RP ACCOUNT NO.	NOMENCLATURE		
TYPE Waukesha		CAPACITY 250 KW		STATE North Dakota		CODE 38			
FUEL USED D		POWER SOURCE		ASSIGNMENT SAC		CODE PS			
SUPPLY SOURCE		NO. OF PUMPS		CONDITION Usable		1			
LIFT (Feet)		REFRIGERANT		OCCUPANCY Air Force		1			
NO. OF BOILERS		OPERATING PRESSURE		AIR FORCE INTEREST Owned		1			
NO. OF RETORTS		PRIME MOVER		UNIT OF AREA MEASURE		KW			
CURRENT CHARACTERISTICS		VOLTS		AMPERE		QUANTITY 300250			
PHASE		CYCLE		CATEGORY 811-145		811-147			
				REMARKS Engine # 1123164 Alternator # 43165-1 Unit # 157544 17102		CAC 53040			
VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	UNIT OF MEASURE		COST			
				AMOUNT	TOTAL	AMOUNT	TOTAL	AMOUNT	TOTAL
77-71	19 Mar 71	Ref RPV on #36-61 deduct Gen to sep plant card	Mar 71			32,600	00	32,600	00
910024	30 Oct 90	Replace 250 KW Gen with 300 KW							
BALANCES FORWARDED									

05-074

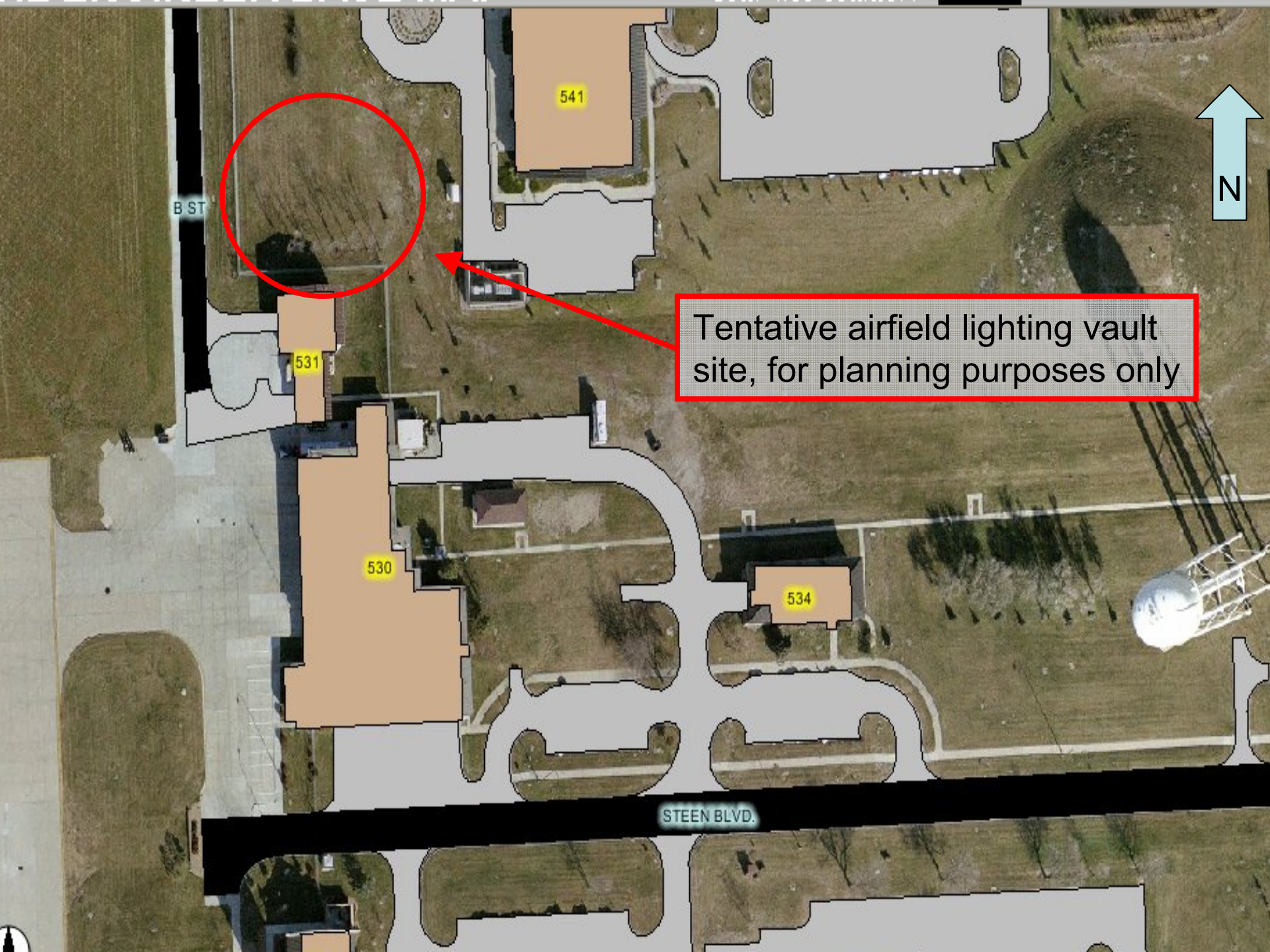
BASE CIVIL ENGINEER WORK REQUEST <small>(See Back of This Form Set for Instructions)</small>				Form Approved OMB No. 0704-0188	
<small>Public reporting burden for this collection of information is estimated to average .3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to the Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project 0704-0188, Washington DC 20503. Please DO NOT RETURN your form to either of these addresses. Send your completed form to HQ AFESC/DEMG.</small>					
SECTION I - TO BE COMPLETED BY REQUESTER					
1. FROM (Organization)		3. DATE OF REQUEST		4. WORK REQUEST NO. (For BCE Use)	
319 CES		10 November 2004		70551	
5. NAME AND PHONE NO. OF REQUESTER		6. REQUIRED COMPLETION DATE		7. BUILDING, FACILITY OR STREET ADDRESS WHERE WORK IS TO BE ACCOMPLISHED	
Mr. Brian Blake		Nov 2005		New Facility	
8. DESCRIPTION OF WORK TO BE ACCOMPLISHED <small>(include Sketch or Plan, when appropriate)</small>					
Design and build a new airfield lighting vault to meet current standards in Unified Facilities Criteria UFC 3-535-01 para's 12.1.8 and 12.1.8.1.					
9. BRIEF JUSTIFICATION FOR WORK TO BE ACCOMPLISHED <small>(Not required for maintenance and repair)</small>					
The current airfield lighting vault bldg 531 has no space left for adding circuits or equipment. There is inadequate for storage of spare parts and equipment. There are drainage and severe moisture problems in the basement. Current vault is 4160 volt primary to all regulators the new AMC standard is to have all regulators powered by 480 volt.					
FUNDS		LABOR		CONTRACT BY REQUESTER	
				<input checked="" type="checkbox"/> NONE	
11. NAME OF REQUESTER		12. GRADE OF REQUESTER		13. SIGNATURE OF REQUESTER <small>(See Instructions on back)</small>	
Brian Blake		WG-10			
14. COORDINATION		319 ARW/SEG		319 ADS/SGGB	
RDR 16 NOV 04		319 CES/CEFT		319 CES/CEV	
SECTION II - FOR BASE CIVIL ENGINEER USE					
15. WORK ORDER <small>(Place an "X" in the appropriate box.)</small>					
IN-SERVICE		SELF-HELP		CONTRACT	
16. DIRECT SCHEDULED WORK <small>(Place an "X" in the appropriate box.)</small>					
EMERGENCY		URGENT		ROUTINE	
17. SELF-HELP <small>(Place an "X" in the appropriate box.)</small>					
BRIEFING REQUIRED		ADEQUATE COORDINATION		INSPECTION REQUIRED	
SECTION III - COMPLETE ONLY IF WORK IS TO BE ACCOMPLISHED BY WORK ORDER					
18. WORK CLASS		19. PRIORITY		20. ESTIMATED HOURS	
21. ESTIMATED FUNDED COST		22. ESTIMATED TOTAL COST			
		\$2M - \$5M			
23. THERE IS NO NEED FOR AN ENVIRONMENTAL ASSESSMENT (AFR 19-2)		24. A WRITTEN ASSESSMENT <i>Needs</i> IS BEING <i>HAS BEEN</i> PROCESSED		25. APPROVED	
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input type="checkbox"/>	
26. DISAPPROVED					
27. REMARKS					
Complete Airfield 813 for Environmental analysis - Contract D. Project requires submission of an AF Form 813 to 319 CES/CEVA.					
SECTION IV - APPROVING AUTHORITY					
28. NAME AND GRADE <small>(Please Type or Print)</small>		29. SIGNATURE		30. DATE	

1. COMPONENT AIR FORCE		FY 2006 PROJECT DATA (computer generated)		2. DATE 16 Feb 06	
3. INSTALLATION AND LOCATION GRAND FORKS AIR FORCE BASE, NORTH DAKOTA			4. PROJECT TITLE A-E DESIGN FOR REPAIR AIRFIELD LIGHTING SYSTEM		
5. PROGRAM ELEMENT 41976	6. CATEGORY CODE 136-668	7. PROJECT NUMBER JFSD200613D	8. PROJECT COST (\$000) EEIC 53210 400		
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT	COST
PRIMARY FACILITIES					400.0
A-E DESIGN FOR RPR AIRFIELD LIGHTING SYS		LS			(400.0)
SUBTOTAL					400.0
PROFIT AND OVERHEAD (.0%)					0.0
TOTAL FUNDED COST					400.0
UNFUNDED COST (.0%)					0.0
TOTAL REQUEST					400.0
10. Description of Proposed Work: Design for repair of the airfield lighting system by replacing the airfield lighting vault and all supporting facility work as required.					
11. Requirement: As Required.					
<p><u>PROJECT:</u> A-E Design For Repair Airfield Lighting System (Current Mission).</p> <p><u>REQUIREMENT:</u> Repair the airfield lighting system by replacing the airfield lighting vault with a new vault in an adjacent location. The new vault must meet criteria in UFC 3-535-01, para 12.1.8 and 12.1.8.1. Lighting regulators must be powered by 480 volts, instead of the present 4160 volt power. Adequate space must be provided for repair and work bench areas and storage of an adequate supply of airfield lighting replacement parts to ensure safe continuous airfield operations in all seasonal weather conditions. Total facility size should be approximately equal to or less than the total square footage of the existing facility, while providing adequate space for all electrical components, circuitry, and safety clearances. The existing vault must remain in operation during the entire construction period of the new vault.</p> <p><u>CURRENT SITUATION:</u> The existing airfield lighting vault was constructed in 1957 and cannot feasibly be repaired or altered to meet current UFC and safety criteria. Current circuitry in the vault carries 4160 volt primary power to all regulators. The configuration and space in the building does not provide adequate storage for spare parts and equipment or expandability for new circuits and associated equipment. The basement has severe moisture and drainage problems that persist in spite of previous attempts to solve them.</p> <p><u>IMPACT IF NOT PROVIDED:</u> If the project is not funded, future airfield operations at Grand Forks AFB will be jeopardized by unreliable airfield lighting circuits as the obsolete vault facility and equipment continue to deteriorate, become increasingly difficult to maintain and obtain replacement parts, and safety issues with the high voltage primary power in the facility continue to present life safety hazards to Air Force electricians.</p>					
<p> MARY C. GILTNER, GM-13, DAFC Deputy Base Civil Engineer</p>					

1. COMPONENT AIR FORCE	FY 2007 PROJECT DATA (computer generated)			2. DATE
3. INSTALLATION AND LOCATION GRAND FORKS AIR FORCE BASE, NORTH DAKOTA		4. PROJECT TITLE REPAIR AIRFIELD LIGHTING SYSTEM (R/M)		
5. PROGRAM ELEMENT 41976	6. CATEGORY CODE 136-668	7. PROJECT NUMBER JFSD200613	8. PROJECT COST (\$000) EEIC 522 3,985.6	
9. COST ESTIMATES				
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)
PRIMARY FACILITIES				2,513.6
AIRFIELD LIGHTING VAULT	SF	3,731	664	(2,475.5)
ANTITERRORISMS/FORCE PROTECTION	SF	3,731	10	(38.1)
SUPPORTING FACILITIES				258.6
UTILITIES	LS			(158.0)
PAVEMENTS	LS			(21.0)
SITE IMPROVEMENTS	LS			(29.0)
DEMOLITION BLDG 531	LS			(50.6)
SUBTOTAL				2,772.2
CONTINGENCY (10.0%)				277.2
SUPERVISION, INSPECTION, AND OVERHEAD (5.7%)				173.8
PROFIT AND OVERHEAD (25.0%)				762.3
TOTAL FUNDED COST				3,985.6
UNFUNDED COST (.0%)				0.0
TOTAL REQUEST				3,985.6
<p>10. Description of Proposed Work: Masonry construction, concrete floor slab on grade with footings, standing seam metal roof, overhead door, underground electrical service, access road, appropriate HVAC with positive air pressure, fire alarm, detection, and suppression system, and all required site improvements. The electric will consist of commercial 480 VAC, new generator with automatic transfer switch (self-contained unit with fuel storage with 72 hours of uninterrupted operation), all required constant current ferroresonant regulators, PAPI circuit selection switch, beacon control, strobe control, and airfield lighting control system. All internal and external communication cabling, equipment, and storage as outlined in ETL 2-12. S1 cutouts on all circuit setups with intentional ground switch with ground current indication switch (DOD MIL-HDBK 1023/4, pg 87, figure 24), computer control system that automatically MEGS cables and has a LOTO capability, manhole duct banks with cable pulling eyes above duct banks, rubber floor matting, overhead crane system, floor lift system, mounted air compressor, work/test bench with 120, 240, and 480 Volt power, and floor drains. An overhead wire way for power runs to equipment, partition between high and low voltage areas, new low-voltage switchgear, transfer switch, panel boards, storage for all equipment and parts, and all equipment to make a complete and usable airfield lighting vault. Reconfigure and add circuits to bring approach lights in compliance with UFC 3-535-01 and 3-535-01-02. Remove or relocate junction boxes in the area of frangibility. New switchgear type regulators, home run cables/conduits, rewiring approach lights for SSALR and install correct number of circuits. Provide high speed internet connection (LAN line), parts storage, restroom, and workbench area. Include force protection, site improvements, and demolition of existing facility with equipment disposal.</p>				
11. Requirement: As Required.				

1. COMPONENT AIR FORCE	FY 2007 PROJECT DATA (computer generated)		2. DATE
3. INSTALLATION AND LOCATION GRAND FORKS AIR FORCE BASE, NORTH DAKOTA		4. PROJECT TITLE REPAIR AIRFIELD LIGHTING SYSTEM (R/M)	
5. PROGRAM ELEMENT 41976	6. CATEGORY CODE 136-668	7. PROJECT NUMBER JFSD200613	8. PROJECT COST (\$000) EEIC 522 3,985.6
<p>PROJECT: REPAIR AIRFIELD LIGHTING SYSTEM (R/M) BLDG 531 (Current Mission)</p> <p>REQUIREMENT: Repair the airfield lighting system by replacing the airfield lighting vault with a new vault in an adjacent location. The new vault must meet criteria in UFC 3-535-01, para 12.1.8 and 12.1.8.1. Lighting regulators must be powered by 480 volts, instead of the present 4160 volt power. Adequate space must be provided for repair and work bench areas and storage of an adequate supply of airfield lighting replacement parts to ensure safe continuous airfield operations in all seasonal weather conditions. Total facility size should be approximately equal to or less than the total square footage of the existing facility, while providing adequate space for all electrical components, circuitry, and safety clearances. The existing vault must remain in operation during the entire construction period of the new vault. Approach lights and circuits must meet UFC 3-535-01 and UFC 3-535-01-02.</p> <p>CURRENT SITUATION: The existing airfield lighting vault was constructed in 1957 and cannot feasibly be repaired or altered to meet current UFC and safety criteria. Current circuitry in the vault carries 4160 volt primary power to all regulators. The configuration and space in the building does not provide adequate storage for spare parts and equipment or expandability for new circuits and associated equipment. The basement has severe moisture and drainage problems that persist in spite of previous attempts to solve them. Approach lights are not switchable to a Simplified Approach Lighting System with Runway Alignment Indicator Lights (SSALR). Above ground electrical junction boxes are within area of frangibility (within 250 ft of runway centerline).</p> <p>IMPACT IF NOT PROVIDED: Future airfield operations at Grand Forks AFB will be jeopardized by unreliable airfield lighting circuits as the obsolete vault facility and equipment continue to deteriorate. Equipment is increasingly difficult to maintain and replacement parts are difficult of obtain. Safety issues involving the high voltage primary power continue to present life safety hazards to Air Force electricians.</p> <p>ADDITIONAL:</p> <p>MARY C. GILTNER, GM-13, DAFC Deputy Base Civil Engineer</p>			

APPENDIX E
LOCATION MAP OF BUILDING 531
AND PROPOSED NEW FACILITY



B ST

531

530

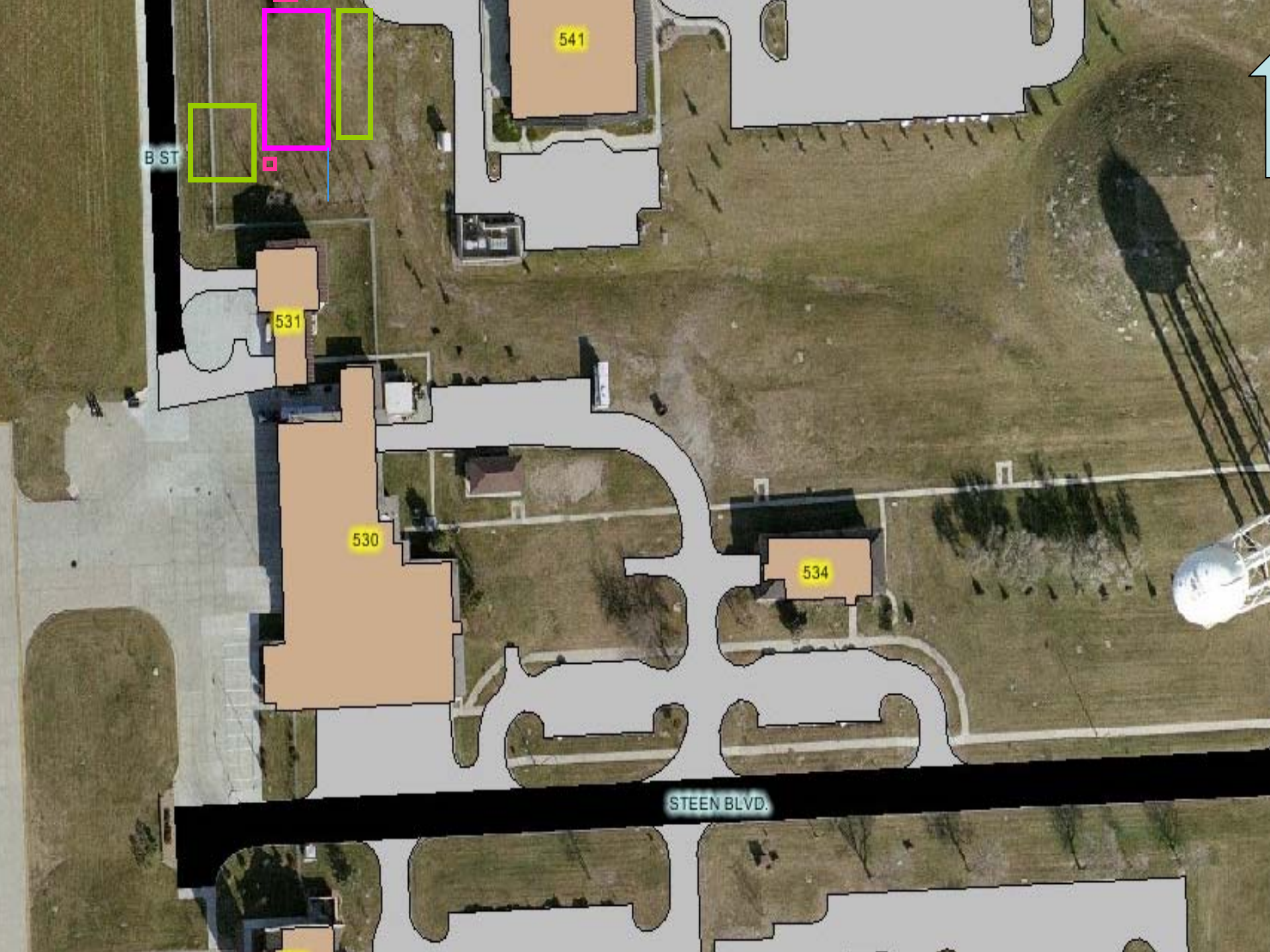
534

541

Tentative airfield lighting vault site, for planning purposes only



STEEN BLVD.



B ST

531

530

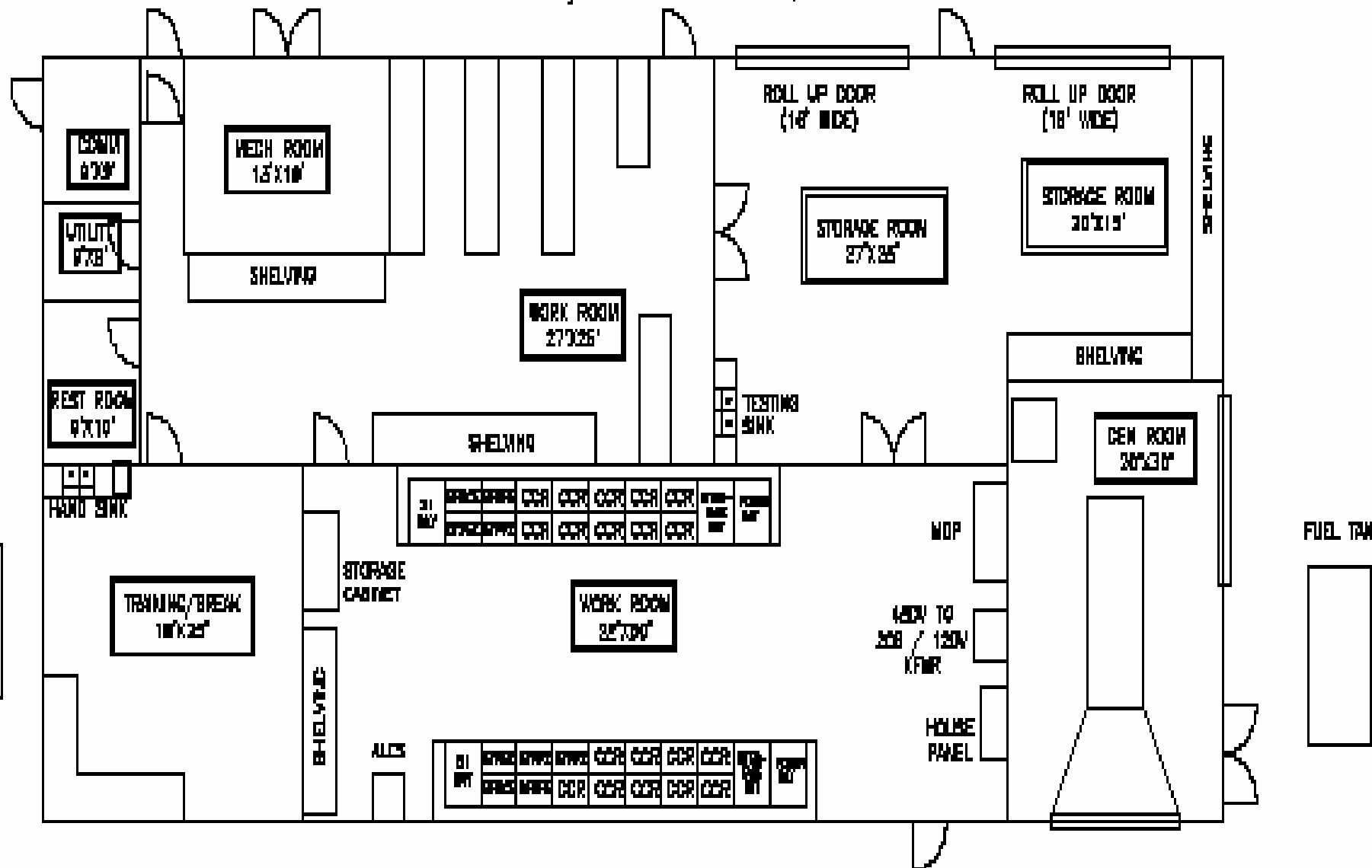
534

541

STEEN BLVD.



5,123 SQ FT



West side of building
-facing B Street

building - facing
Bravo ramp

APPENDIX F
PHOTOGRAPHS
OF FACILITY 531 AND LOCATION
OF PROPOSED FACILITY

















CORRESPONDENCE

**Air Force Base
Public Notice**

Grand Forks Air Force Base has proposed the construction of a new airfield lighting vault facility and the demolition of the existing vault (Building 531) on base. An environmental assessment (EA) has been conducted and a finding of no significant impact has been determined for this action. Anyone wishing to view the support documents to this action should contact the 319th Air Refueling Wing Public Affairs Office within the next 30 days at 747-5023. The EA can be viewed at <http://public.grandforks.af.mil/library/>.
(September 8, 2007)

AFFIDAVIT OF PUBLICATION

**STATE OF NORTH DAKOTA }
COUNTY OF GRAND FORKS } SS.**

Emily Passey of said State and County being
first duly sworn, on oath says:

That { she } is { a representative of the GRAND FORKS HERALD, INC.,

publisher of the Grand Forks Herald, Morning Edition, a daily newspaper of general circulation, printed and published in the City of Grand Forks, in said County and State, and has been during the time hereinafter mentioned, and that the advertisement of _____

AFB Public Notice re: construction of new airfield
a printed copy of which is hereto annexed, was printed and published in every copy of the following issues of said newspaper, for a period of 1 time (s) to wit:

9/8 Yr. 2007 _____ Yr. _____
_____ Yr. _____ _____ Yr. _____
_____ Yr. _____ _____ Yr. _____
_____ Yr. _____ _____ Yr. _____

and that the full amount of the fee for the publication of the annexed notice inures solely to the benefit of the publishers of said newspaper; that no agreement or understanding for a division thereof has been made with any other person and that no part thereof has been agreed to be paid to any person whomsoever and the amount of said fee is \$ 10.71;

That said newspaper was, at the time of the aforesaid publication, the duly elected and qualified Official Newspaper within said County, and qualified in accordance with the law of the State of North Dakota to do legal printing in said County and State.

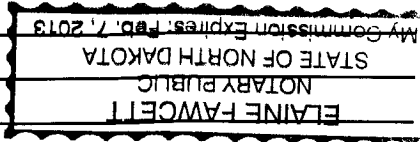
Subscribed and sworn to before me this 11 day of

Sep A.D. 07

Elaine Lawrence

Notary Public, Grand Forks, ND

Publication Fee \$ 10.71



September 17, 2007

Diane M. Strom
Dept. of The Air Force
319 CES/CEVA
525 Tuskegee Airmen Blvd.
Grand Forks AFB, ND 58205-6434

"Letter of Clearance" In Conformance with the North Dakota Federal Program Review System -
State Application Identifier No.: ND070917-0400

Dear Ms. Strom:

SUBJECT: Environmental Assessment - Construct Airfield Lighting Vault and Demolish
 Bldg. 531

The above referenced assessment has been reviewed through the North Dakota Federal Program Review Process. As a result of the review, clearance is given to the project only with respect to this consultation process.

If the proposed project changes in duration, scope, description, budget, location or area of impact, from the project description submitted for review, then it is necessary to submit a copy of the completed application to this office for further review.

We also request the opportunity for complete review of applications for renewal or continuation grants within one year after the date of this letter.

Please use the above SAI number for reference to the above project with this office. Your continued cooperation in the review process is much appreciated.

Sincerely,



James R. Boyd
Manager of Governmental Services
Division of Community Services

bb



"We lead North Dakota's efforts to attract, retain and expand wealth."



NORTH DAKOTA
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION
Gold Seal Center, 918 E. Divide Ave.
Bismarck, ND 58501-1947
701.328.5200 (fax)
www.ndhealth.gov



September 19, 2007

Ms. Diane M. Strom
Environmental Impact Analysis Program
319 CES/CEVA
525 Tuskegee Airmen Blvd.
Grand Forks AFB, ND 58205-6434

Re: Construction of an Airfield Lighting Vault & Demolition of Building 531
Grand Forks Air Force Base, Grand Forks County

Dear Ms. Strom:

This department has reviewed the information concerning the above-referenced project submitted under date of September 17, 2007, with respect to possible environmental impacts.

This department believes that environmental impacts from the proposed construction will be minor and can be controlled by proper construction methods. With respect to construction, we have the following comments:

1. All necessary measures must be taken to minimize fugitive dust emissions created during construction activities. Any complaints that may arise are to be dealt with in an efficient and effective manner.
2. All necessary measures must be taken to minimize the disturbance of any asbestos-containing material and to prevent any asbestos fiber release episodes. Any facility that is to be renovated or demolished must be inspected for asbestos. Notification of the Department's Division of Air Quality (701-328-5188) is required before any demolition. Removal of any friable asbestos-containing material must be accomplished in accordance with section 33-15-13-02 of the North Dakota air pollution control rules.
3. Noise from construction activities may have adverse effects on persons who live near the construction area. Noise levels can be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Noise effects can also be minimized by ensuring that construction activities are not conducted during early morning or late evening hours.

The department owns no land in or adjacent to the proposed improvements, nor does it have any projects scheduled in the area. In addition, we believe the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.

Environmental Health
Section Chief's Office
701.328.5150

Division of
Air Quality
701.328.5188

Division of
Municipal Facilities
701.328.5211

Division of
Waste Management
701.328.5166

Division of
Water Quality
701.328.5210

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Rec 26 Sep 07

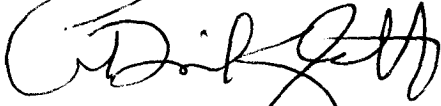
Ms. Diane M. Strom

2.

September 19, 2007

If you have any questions regarding our comments, please feel free to contact this office.

Sincerely,

A handwritten signature in black ink, appearing to read "L. David Glatt", written over the word "Sincerely,".

L. David Glatt, P.E., Chief
Environmental Health Section

LDG:cc



**STATE
HISTORICAL
SOCIETY
OF NORTH DAKOTA**

John Hoeven
Governor of North Dakota

**North Dakota
State Historical Board**

Marvin L. Kaiser
Williston - President

Albert I. Berger
Grand Forks - Vice President

Chester E. Nelson, Jr.
Bismarck - Secretary

Gereld Gerntholz
Valley City

A. Ruric Todd III
Jamestown

Diane K. Larson
Bismarck

Richard Kloubec
Fargo

Sara Otte Coleman
*Director
Tourism Division*

Kelly Schmidt
State Treasurer

Alvin A. Jaeger
Secretary of State

Douglass Prchal
*Director
Parks and Recreation
Department*

Francis Ziegler
*Director
Department of Transportation*

Merlan E. Paaverud, Jr.
Director

*Accredited by the
American Association
of Museums*

September 17, 2007

Ms. Diane M. Strom
Environmental Impact Analysis Program
319 CES/CEVA, Room 128
525 Tuskegee Airmen Blvd
Grand Forks AFB ND 58205-6434

**ND SHPO 97-0527BP: Construction of an airfield lighting vault and
demolition of Building 531 [T152N R53W Section 26, SE 1/4] Grand Forks
Air Force Base, North Dakota**

Dear Ms. Strom;

We reviewed ND SHPO 97-0527BP: Construction of an airfield lighting vault and demolition of Building 531 [T152N R53W Section 26, SE 1/4] Grand Forks Air Force Base, North Dakota, and concur with a "No Historic Properties Affected" determination, provided the project is of the nature specified and takes place in the legal description outlined and mapped in the draft report. In North Dakota, ND SHPO strongly prefers that any borrow fill come from an approved source, that is a source surveyed by an archaeologist and found to contain no significant cultural resources.

If you have any questions please contact Susan Quinnell, at (701) 328-3576 or squinnell@nd.gov

Sincerely,

Merlan E. Paaverud, Jr.
State Historic Preservation Officer (North Dakota)



"Strom, Diane CIV 319
CES/CEVA"
<Diane.Strom@grandforks.af.
mil>

09/14/2007 08:43 AM

To <jboyd@state.nd.us>, <joleier@state.nd.us>,
<heritage@state.nd.us>, "Schumacher, John D."
<jdschumacher@state.nd.us>, <dklinner@state.nd.us>,
cc

bcc

Subject Review of Environmental Assessment for Construction of
Airfield Lighting Vault and Demo of existing Vault

Grand Forks Air Force Base is proposing the Construction of an Airfield Lighting Vault and Demolition of Building 531, the existing vault.

Request you review the draft Environmental Assessment (EA). You can find the EA at the following public web site:

<http://public.grandforks.af.mil/shared/media/document/AFD-070906-051.pdf>

Please review the document and identify any additional resources within your agency's responsibility that may be impacted by the action. We respectfully request that your signed comments be sent, electronically if necessary, to reach our office by October 5, 2007.

Your assistance in providing information is greatly appreciated. If you have any questions or problems with access to the electronic document on the web page, please call or email me at the following number/address.

Sincerely,

Diane M. Strom

Environmental Impact Analysis Program (EIAP)

319 CES/CEVA

525 Tuskegee Airmen Blvd

Grand Forks AFB ND 58205-6434

Phone (701) 747-6394. DSN 362-6394

Fax (701) 747-6155. DSN 362-6155

email Diane.Strom@us.af.mil

U.S. FISH AND WILDLIFE SERVICE

**ECOLOGICAL SERVICES
ND FIELD OFFICE**

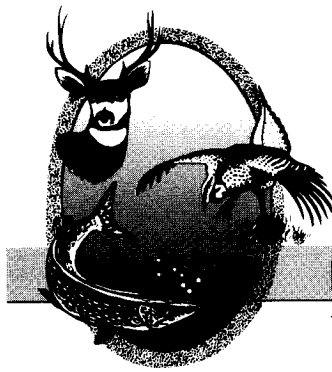
Project as described will have no significant impact on fish and wildlife resources. No endangered or threatened species are known to occupy the project area. IF PROJECT DESIGN CHANGES ARE MADE, PLEASE SUBMIT PLANS FOR REVIEW.

9-25-07 *Jeffrey K. Towner*

Date

Jeffrey K. Towner
Field Supervisor

Rec 26 Sep 07



"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT

100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6300 FAX 701-328-6352

September 28, 2007

Diane M. Strom
Environmental Impact Analysis Program
319 CES / CEVA
525 Tuskegee Airmen Blvd
Grand Forks AFB, ND 58205-6434

Dear Ms. Strom:

RE: Construction of Airfield Lighting Vault and Demolition of Building 531
Grand Forks Air Force Base

The North Dakota Game and Fish Department has reviewed this project for wildlife concerns. We do not believe it will have any significant adverse effects on wildlife or wildlife habitat, including endangered species, based on the information provided.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael G. McKenna", is positioned below the word "Sincerely,".

Michael G. McKenna
Chief
Conservation & Communication Division

js

Strom, Diane CIV 319 CES/CEVA

From: 319 ARW/PA (Public Affairs)
Sent: Tuesday, October 09, 2007 1:17 PM
To: Strom, Diane CIV 319 CES/CEVA
Cc: Kapinos, Joseph V TSgt 319 ARW/PA
Subject: RE: Environmental Notice for Airfield Lighting Vault

Good afternoon, ma'am.

We didn't receive any questions about the notice. I've just removed it from the news briefs and from the public Web site. Please let me know if you need anything else! Have a terrific day!

Respectfully,
SSgt Amanda Callahan
NCOIC Public Communications
Public Affairs
319th Air Refueling Wing
DSN 362-5015 Commercial 701-747-5015

PRIVACY ACT STATEMENT - The information contained in this email may contain confidential patient information that is legally protected by the Privacy Act of 1974, 5 U.S.C. 552a, the Health Insurance Portability and Accountability Act of 1996, P.L. 104-191, and other applicable federal and state laws. This information is intended only for the use of the individual or entity(s) named above. The authorized recipient of this information is prohibited from disclosing this information to any other party and is required to destroy the information after its stated need has been fulfilled, unless otherwise required by state law. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution, or action taken in reliance on the contents of these documents is strictly prohibited. If you have received this email in error, please notify the sender immediately to arrange for return of this information.

-----Original Message-----

From: Strom, Diane CIV 319 CES/CEVA
Sent: Tuesday, October 09, 2007 1:11 PM
To: Callahan, Amanda P SSgt 319 ARW/PA
Subject: Environmental Notice for Airfield Lighting Vault

1. Did you receive any comments from the public notice? It has been thirty days.
2. You can delete the Environmental Notice fact sheet from the Library section of the public web page.
3. You can delete the following news brief announcement from the Daily Admins:

Environmental public notice

Grand Forks Air Force Base has proposed the construction of a new airfield lighting vault facility and the demolition of the existing vault building 531 on base. An environmental assessment has been conducted and a finding of no significant impact has been determined for this action. Anyone wishing to view the support documents to this action should contact the 319th Air Refueling Wing Public Affairs Office within the next 30 days at 747-5023. The EA can be viewed at <http://public.grandforks.af.mil/library/>.

Thank you for your reply.

Sincerely,
Diane M. Strom
Environmental Impact Analysis Program (EIAP)



DEPARTMENT OF THE AIR FORCE

HEADQUARTERS 319TH AIR REFUELING WING (AMC)
GRAND FORKS AIR FORCE BASE, NORTH DAKOTA

10 October 2007

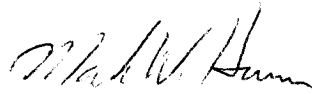
MEMORANDUM FOR 319 CES/CEVA

FROM: 319 ARW/JA

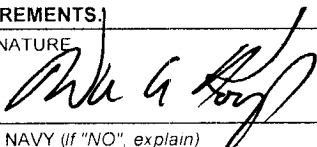
SUBJECT: Legal Review – Grand Forks AFB Environmental Assessment and FONSI for Construction of Airfield Lighting Vault and Demolition of Building 531.

1. Based upon my review the proposed Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) the Construction of Airfield Lighting Vault and Demolition of Building 531 complies with 32 CFR part 989 and is legally sufficient.
2. 32 CFR §. 989.14 states an EA must discuss the need for the proposed action, reasonable alternatives to the proposed action, the affected environment, the environmental impacts of the proposed action and alternatives (including the "no action" alternative), and a listing of agencies and persons consulted during preparation. The EA meets these requirements and follows the alternatives analysis guidance outlined in Sec. 989.8.
3. 32 CFR § 989.15 states the FONSI (40 CFR 1508.13) briefly describes why an action would not have a significant effect on the environment and thus will not be the subject of an EIS. The FONSI must summarize the EA or, preferably, have it attached. The FONSI I reviewed is legally sufficient.
4. A FONPA is documentation mandated by Executive Order 11988 and Executive Order 11990. Agencies are required to consider reasonable alternatives that will *mitigate* the adverse environmental impact of a proposed action. My review of those items in italics (FONSI/FONPA) suggests that appropriate mitigation measures have been contemplated to minimize impacts to the environment
5. Public notification was accomplished on 8 September 2007. No comments were received in response to the public notification.

6. Proposed alternative selected would have no impact to wetland.
7. If you have any questions about these comments, please contact the undersigned at 7-3606.

A handwritten signature in black ink, appearing to read 'Mark W. Hanson', with a stylized, cursive script.

MARK W. HANSON, GS-12, DAF
Chief, General Law

FACILITY DISPOSAL			DATE 20070925		FORM APPROVED OMB NO. 0704-0188	
<small>Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington DC 20503. Please DO NOT RETURN your form to either of these addresses.</small>						
NAME AND LOCATION OF INSTALLATION Grand Forks AFB, ND			COMMAND AMC		INSTALLATION CODE JFSD	
OBTAIN INFORMATION FOR COLUMNS A THROUGH F FROM RCS: HAF-LEE(AR)7115						
FACILITY NUMBER A	CATEGORY CODE B	NOMENCLATURE C	U OF M D	QUANTITY E	COST F	DISPOSAL VALUE G
531	890-187	Utility Vault	sf	3731	\$535,960.00	\$0.00
CONDITIONS PROMPTING DISPOSAL (See AF132-9004 for required attachments) Facility 531, Utility Vault, was built in 1957. Project #JFSD200613 for the repair of the airfield lighting system includes a new lighting vault. When the new vault is completed the current vault will no longer be needed. The Grand Forks AFB Facility Board approved demolition on 18 Jun 2007.						
I HEREBY CERTIFY DISPOSAL ACTION HAS CLEARED ALL ENVIRONMENTAL REQUIREMENTS.						
TYPED NAME AND GRADE OF ENVIRONMENTAL ENGINEER WAYNE A. KOOP, R.E.M., YF-02 Environmental Management Flight Chief			SIGNATURE 		OCT 11 2007	
INDICATE IN APPLICABLE BOX IF SCREENING HAS OR HAS NOT BEEN MADE WITH ARMY OR NAVY (If "NO", explain) <input type="checkbox"/> YES <input type="checkbox"/> NO						
ACTIONS BY INSTALLATIONS FACILITIES BOARD						
ACTION		DISPOSAL ACTION				
<input type="checkbox"/> DISAPPROVED <input type="checkbox"/> APPROVED		<input type="checkbox"/> SALE <input type="checkbox"/> SALVAGE			OTHER (Specify)	
<input type="checkbox"/> RECOMMENDED FOR APPROVAL		DISPOSAL TO BE COMPLETED ON OR BEFORE				
TYPED NAME AND GRADE OF FACILITIES BOARD RECORDER KEN JOHNSON, YF-02 Chief, Engineering Flight		SIGNATURE			DATE	
ACTIONS BY APPROVING COMMAND						
DISPOSAL ACTION		DISPOSAL ACCOMPLISHED BY				
<input type="checkbox"/> DISAPPROVED <input type="checkbox"/> APPROVED		<input type="checkbox"/> SALE <input type="checkbox"/> SALVAGE			OTHER (Specify)	
<input type="checkbox"/> RECOMMENDED FOR APPROVAL		DISPOSAL TO BE COMPLETED ON OR BEFORE				
TYPED NAME AND GRADE OF MAJCOM APPROVING OFFICIAL DIANE R. HULL, Col, USAF Commander, 319th Air Refueling Wing		SIGNATURE			DATE	